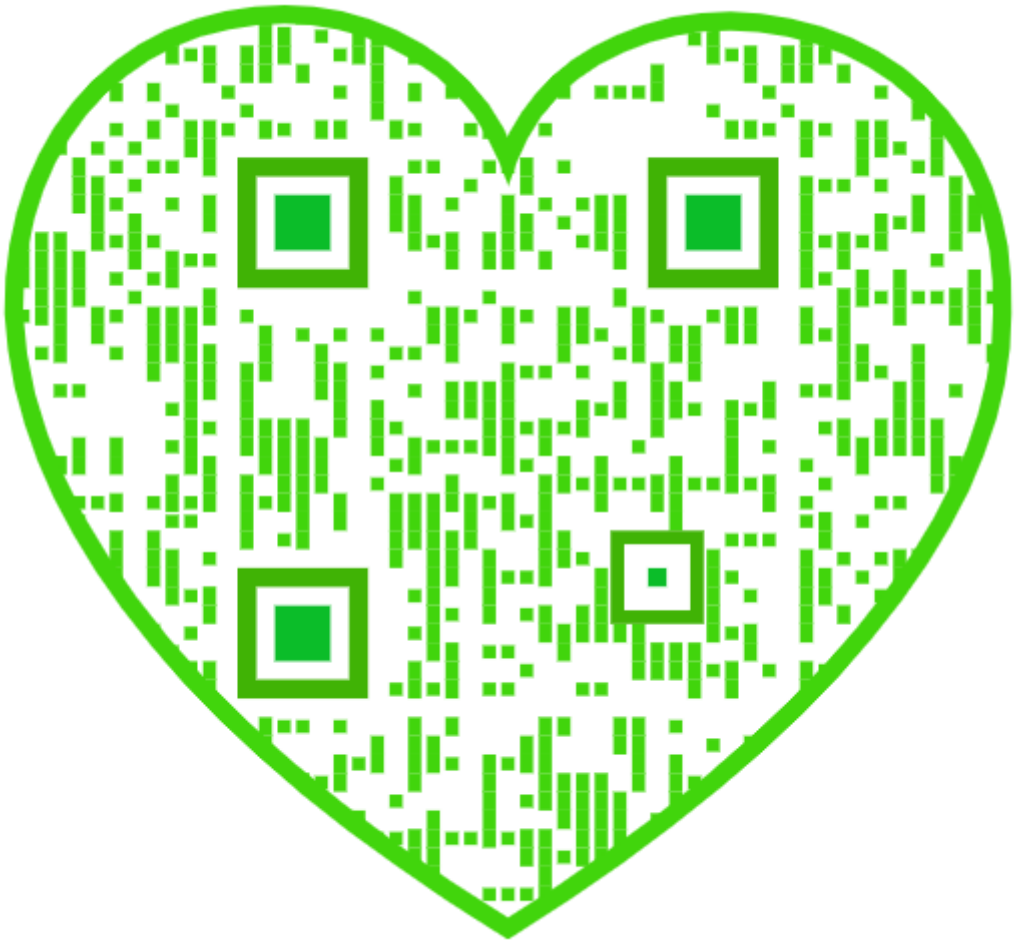

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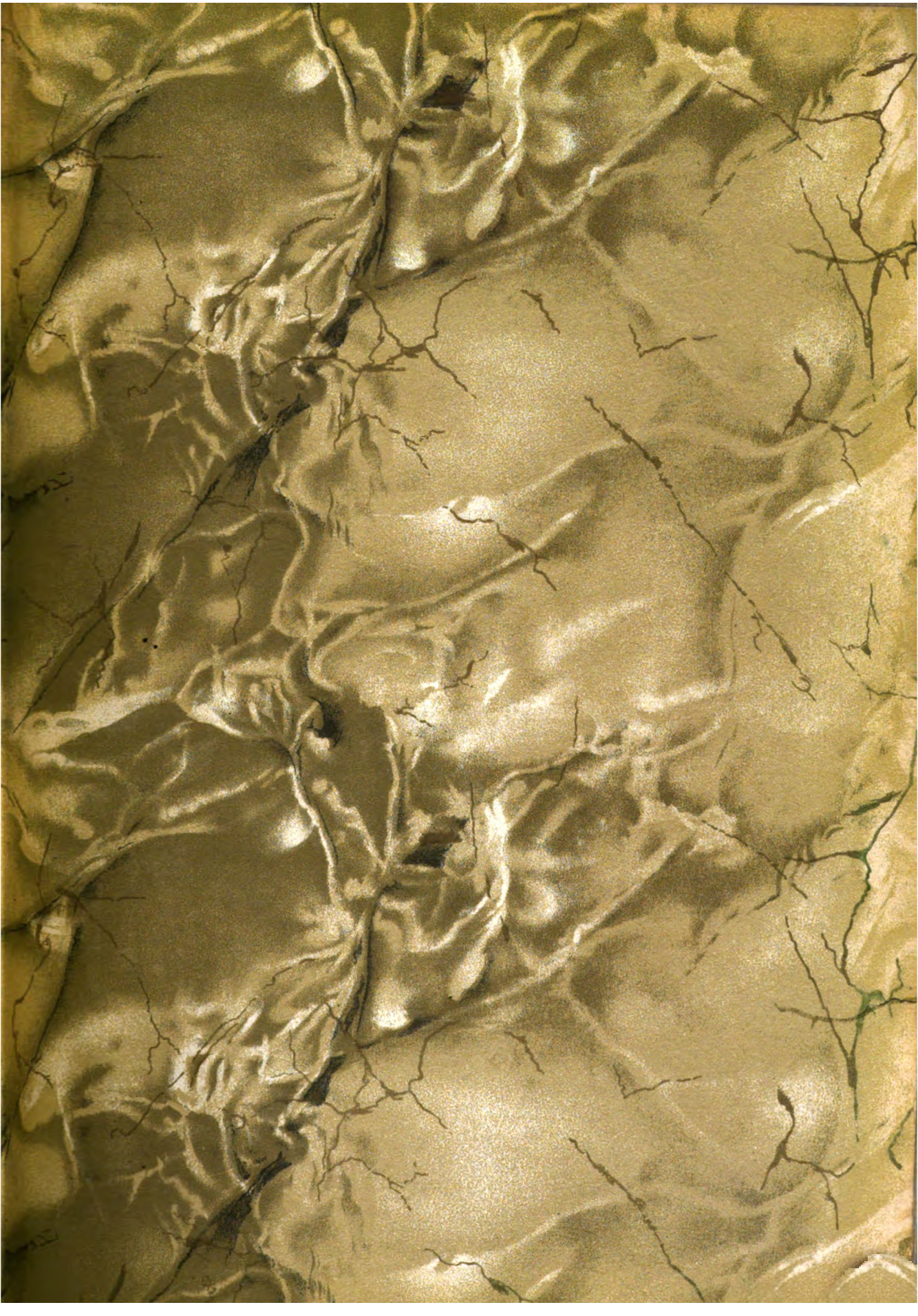

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PARTIAL LIST OF CONTRIBUTORS TO VOLUME XVI

ALDEN, RAYMOND M., Ph.D., Litt.D.
Professor of English, Stanford University

LADY OF THE LAKE, THE

ASHER, JOSEPH MAYOR, M.A.
Late Professor of Homilectics, Jewish Theological Seminary of America

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Associate Professor of American Literature, University of Wisconsin

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DEUTSCH, GOTTHARD, Ph.D.
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Professor of English Language and Literature, College of Wooster, Wooster, Ohio

JOHNSON, BOSWELL'S LIFE OF

EISERHARDT, EWALD, Ph.D.
Professor of German, University of Rochester

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Professor of English, Vanderbilt University
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Professor of Biblical Theology, Hartford Theological Seminary

JOHN, EPISTLES OF
JOHN, GOSPEL OF

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New York City

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Associate in Post Biblical Hebrew, John Hopkins University; and Rabbi of Congregation Cheb Shalom, Baltimore, Md.

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New York City

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College of Liberal Arts, Boston University

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Professor of Slavic Languages and Literatures, Harvard University

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WRIGHT, HERBERT F., Ph.D.
Sometime of the Department of Latin, The Catholic University of America

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Professor of English, Amherst College

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KEY TO PRONUNCIATION.

ā	far, father
ā	fate, hate
a or ă	at, fat
ā	air, care
ạ	ado, sofa
â	all, fall
ch	choose, church
ē	eel, we
e or ĕ	bed, end
ė	her, over: also Fr. *e*, as in *de; eu*, as in *neuf;* and *oeu*, as in *boeuf, coeur;* Ger. *ö* (or *oe*), as in *ökonomie.*
ẹ	befall, elope
ē	agent, trident
ff	off, trough
g	gas, get
gw	anguish, guava
h	hat, hot
h or H	Ger. *ch*, as in *nicht, wacht*
hw	what
ī	file, ice
i or ĭ	him, it
i	between e and i, mostly in Oriental final syllables, as, Ferid-ud-din
j	gem, genius
kw	quaint, quite
ṅ	Fr. nasal *m* or *n*, as in *embonpoint, Jean, temps*
ñ	Span. *ñ*, as in *cañon* (căn'yŏn), *piñon* (pēn'yŏn)
ng	mingle, singing
nk	bank, ink
ō	no, open
o or ŏ	not, on
ô	corn, nor
ȯ	atom, symbol
ọ	book, look
oi	oil, soil; also Ger. *eu*, as in *beutel*
ö or oo	fool, rule
ou or ow	allow, bowsprit
s	satisfy, sauce
sh	show, sure
th	thick, thin
ṫh	father, thither
ū	mute, use
u or ŭ	but, us
u̇	pull, put
ü	between u and e, as in Fr. *sur*, Ger. *Müller*
v	of, very
y	(consonantal) yes, young
z	pleasant, rose
zh	azure, pleasure
′(prime), ″(secondary)	accents, to indicate syllabic stress

THE ENCYCLOPEDIA AMERICANA

J

JEFFERSON, Charles Edward, American Congregational clergyman: b. Cambridge, Ohio, 29 Aug. 1860. He was graduated from Ohio Wesleyan University (Delaware, Ohio) in 1882, from the School of Theology of Boston University in 1887, was ordained to the Congregational ministry in 1887. He was pastor of the Central Congregational Church at Chelsea, Mass., until 1898, when he became pastor of the Broadway Tabernacle, New York. In 1914 he became chairman of the executive committee of the Church of Peace Union, endowed by Andrew Carnegie. Among his writings are 'Quiet Talks with Earnest People in My Study'; and 'The Broadway Tabernacle of the Past and Future' (1901); 'Doctrine and Deed' (1902); 'Things Fundamental' (1903); 'The Minister as Prophet' (1905); 'Faith and Life' (1905); 'The New Crusade' (1907); 'The Character of Jesus' (1908); 'My Father's Business' (1909); 'The Christmas Builders' (1909); 'The Building of the Church' (1910, 1913); 'Why We May Believe in Life after Death' (1911); 'The Minister as Shepherd' (1912); 'The Cause of the War' (1914); 'Christianity and International Peace' (1915); 'The Land of Enough' (1917).

JEFFERSON, Joseph, American actor: b. Philadelphia, 20 Feb. 1829; d. Palm Beach, Fla., 23 April 1905. He was privately educated and from infancy was upon the stage, appearing as Cora's child in 'Pizarro' when three years old, and among his first public appearances being that as a miniature of T. D. Rice in one of the latter's «Jim Crow» entertainments at Washington, D. C. In 1843 he became a member of a band of strolling players that gave primitive entertainments through Mississippi and Texas, and followed the United States army into Mexico. On his return to the United States he appeared at the Arch Street Theatre, Philadelphia, directed the performances at Peale's Museum in that city, became known as an excellent stock actor, and in 1851 played Marroll in 'A New Way to Pay Old Debts' to the Sir Charles Overreach of Junius Brutus Booth. His prominence began with his creation of Asa Trenchard in 'Our American Cousin,' which eliminated from the stage the traditional caricature of Yankee character. He visited Europe in 1856 and soon after his return joined Laura Keene's Company. He then appeared in the parts he afterward made famous: Newman Noggs in 'Nicholas Nickleby'; Caleb Plummer in 'The Cricket on the Hearth'; Dr. Pangloss in 'The Heir at Law'; Dr. Ollapod in 'The Poor Gentleman'; Mr. Golightly in 'Lend Me Five Shillings'; Salem Scudder in 'The Octoroon'; Bob Acres in 'The Rivals'; and, above all, Rip Van Winkle in the play of that name. Dissatisfied with his own dramatization of Irving's sketch, in which he had appeared at Washington in 1860, Jefferson had the play rewritten by Dion Boucicault, and in Boucicault's version, with slight changes, afterward acted. The drama ran for 170 nights at the Adelphi, London, in 1865, and in the United States was so successful that for years Jefferson appeared there in nothing else. Jefferson's Rip established itself as one of the classic creations of the stage, and outside of Shakespeare probably no character ever attained so wide and permanent a recognition with the American public. In the later years of his life he played but a few weeks annually in a repertoire of favorite parts. He also made a considerable reputation as an artist by his impressionist landscapes in oils. His acting method was distinguished by ease, verisimilitude and perfection of finish. In the plays used by him he, for artistic purposes, introduced several admirable changes and additions. He was a member of the American Academy of Arts and Letters. He published an interesting 'Autobiography' (New York 1890), and a 'Reply to Ignatius Donnelly on the Shakespeare-Bacon Argument.' Consult the 'Autobiography' and Carroll, 'Twelve Americans' (New York 1883); Dole, N. H., 'Joseph Jefferson at Home' (Boston 1898); Jefferson, E. P., 'Intimate Recollections of Joseph Jefferson' (New York 1909); Matthews and Hutton, 'Actors and Actresses of Great Britain and the United States' (ib. 1886); Moses, M. J., 'Famous Actor-Families in America' (ib. 1906); Wilson, Francis, 'Joseph Jefferson' (ib. 1906); id., 'Reminiscences of a Fellow Player' (ib. 1906); Winter, William, 'The Jeffersons' (Boston 1881); id., 'Other Days' (New York 1908).

JEFFERSON, Thomas, American statesman, third President of the United States; b. Shadwell, Albemarle County, Va., 13 April 1743; d. Monticello, Albemarle County, Va., 4 July 1826; student at William and Mary College, Williamsburg, Va., 1760–62; student of law 1762–67; member of house of burgesses 1769–74; member of Virginia Conventions 1774 and 1775; of the Continental Congress 1775–76; of Virginia legislature 1776–79; governor of

Virginia 1779–81; member of Congress 1783–84; Minister to France 1784–89; Secretary of State 1790–93; Vice-President 1797–1801); President 1801–09; in retirement at Monticello 1809–26.

Thomas Jefferson was the son of Peter Jefferson, a planter of Albemarle County, Va. His mother was Jane Randolph, daughter of Isham Randolph, who was a descendant of William Randolph of Turkey Island, the progenitor of that family so well known in Virginia history. Jefferson's birthplace was Shadwell, about four miles from the city of Charlottesville. At this homestead he resided until it was destroyed by fire in 1770; thereupon Jefferson selected a low mountain about two miles from Charlottesville, where he built that now famous mansion, "Monticello." Albemarle County, Va., has the proud distinction of being the section in which Jefferson was born, reared, lived, died and lies buried. Jefferson's early education, as was usually the case with Virginia planters, was entrusted first to a private tutor, from whom he learned Latin, Greek, French and mathematics. At 14 his father died, and after two years in a school conducted by the Rev. James Maury, he entered in 1760 William and Mary College, at that time the best institution of learning in America. The student Jefferson is described as tall and rawboned, with reddish hair and grayish hazel eyes. He was not then regarded as handsome, though in after years he was considered as probably the most attractive in appearance of the great Virginia statesmen. As a youth he was noted for his intelligence, and while at college he was in constant association with such men of culture as George Wythe (q.v.), the eminent lawyer; Prof. William Small, the profound scholar, and Gov. Francis Fauquier (q.v.), the gay and accomplished gentleman. With these gentlemen, many years his senior, he was accustomed to discuss the deepest questions of philosophy and government. In Williamsburg, Jefferson was one of the leaders in all social functions, and always attended the balls given in the Apollo Room of the Raleigh Tavern. Probably his first year at college was spent among too many festivities, but during his second year he is said to have been a most diligent student, often devoting 15 hours a day to his books. After two years of college work he commenced the study of law under George Wythe, but did not apply for admission to practice before the General Court of Virginia till 1767. Jefferson was now 24 years of age; he had a large farm of 1,900 acres (soon increased to 5,000 acres) to which he gave his personal supervision. Though he devoted much time to this farm, he succeeded so well as a lawyer that his profession soon paid him $3,000 annually.

In 1769 he was returned by Albemarle County a member of the House of Burgesses, an honor which his father had had before him. This was Jefferson's beginning as a statesman. He had stood in 1765 in the hallway of the House of Burgesses when Patrick Henry (q.v.) offered his famous resolution against the Stamp Act, and from Patrick Henry he imbibed the spirit of revolution. Just as soon as he became a member of the Burgesses, he joined the party of resistance to England. He was by nature a bold and fearless thinker, and when a mere boy he had had engraved on a seal as his motto, "Resistance to tyrants is obedience to God," a principle to which he held throughout his long and eventful life. Jefferson was present when the House of Burgesses passed the resolutions of 1769. He was one of those who signed the agreement not to import goods from England. He was also a member of the House of Burgesses when, in 1773, it established a Committee of Correspondence between Virginia and the other colonies. Some think that the resolutions for such a committee were drawn by Jefferson, though they were offered in the house by his kinsman, Dabney Carr (q.v.). Of this committee Jefferson was a member. He served again in the House of Burgesses in 1774, and was one of those who voted for the resolution appointing a day of fasting and prayer because of the oppressive measures which England had passed against the city of Boston. When the governor dissolved the assembly, Jefferson met with those discontented members who called for a general congress of the colonies and asked the freeholders of Virginia for a convention to consider the state of the colony. To this convention Jefferson was returned by the people of Albemarle. The convention of 1774 was the first extralegal assembly to meet in Virginia. Jefferson was unable to be present, having been taken ill on his way to Williamsburg. However, his influence was felt through a document called "The Summary View of the Rights of British America," which was intended to be a series of instructions to the Virginia delegates to the First Continental Congress. The instrument marked him as a revolutionist, and as an advocate of independence from England, for in it he distinctly claimed that the colonies had a right to govern themselves without interference from the English Parliament. His views were too radical for the Virginia convention to give them its official stamp.

Jefferson was also elected a member of the convention of 1775, which met at Saint John's Church, Richmond, and when Patrick Henry by his eloquence carried the colony into open rebellion against the mother country, Jefferson was appointed a member of the committee to devise a plan for organizing the militia of the colony. Shortly after this he became a member of the Second Continental Congress. When he entered that body he was 32 years of age, being one of the youngest three members. Here he was placed on such important committees as those which drafted a paper to explain the rebellious attitude of Massachusetts at Lexington and Concord, and to reply to Lord North's "Conciliatory Policy." On each committee he showed such a strong republican tendency that his suggestions were not accepted. The members of the Continental Congress of 1775 were not far-sighted enough to see that independence was the only course. Finally, in the spring of 1776, there came to the Virginia members of Congress instructions from the Virginia convention of 1776 that the united colonies should be declared free and independent States; and accordingly Richard Henry Lee, called the American Cicero, moved that a Declaration of Independence should be adopted. In accordance with the motion, a committee was appointed and the members were elected by ballot. Jefferson's facility for writing was so

THOMAS JEFFERSON

Third President of the United States

well known to the Congress that he received the highest number of votes and was named as chairman of the committee over such men as John Adams, Benjamin Franklin, Roger Sherman and Robert R. Livingston. To him as chairman fell the task of drafting that immortal document which stands in the history of the world as the most revolutionary political paper ever written. On 4 July 1776, the instrument, practically as offered by Jefferson, was unanimously adopted and to it were placed the signatures of all the members of Congress then present, except one. The principles set forth in that document mean a government by and for the people, and show that Jefferson was far ahead of his day; for it is only at the dawn of the 20th century that we are beginning to comprehend the great and universal truths that Jefferson made known to the world. (See DECLARATION OF INDEPENDENCE). Jefferson retired from Congress in 1776, and, on returning to his native State, entered the Virginia legislature with the hope of revising and modifying her laws so that they might accord with republican government. For three years he served in the House of Delegates. During this time he succeeded in breaking down the laws of primogeniture and entail, in practically disestablishing the English Church and in passing one of the best laws that the world has ever seen for public education providing an ideal system from the primary school to the university. Through his influence the legislature appointed a committee to revise thoroughly the laws of Virginia. The committee was composed of Edmund Pendleton, George Wythe and Jefferson. After two years the revision, chiefly done by Jefferson, was submitted to the General Assembly, but was not adopted *in toto*. Finally, however, in 1785, while Jefferson was in France, his faithful friend and political follower, James Madison, secured the passage of nearly all of Jefferson's work. It was at this time that the legislature approved the famous Statute for Religious Freedom, by which the complete separation of Church and State was accomplished, except the taking away of the *glebe* lands, a thing which was done in 1802. Jefferson wished even more radical changes in Virginia, such as the equalizing of representation on population instead of having two representatives from each county. He also desired that the suffrage should not be restricted to landowners, but that it should be extended to all men who might be subject to military duty. He likewise advocated more local self-government in the counties and towns of the State. He even went so far as to advocate the emancipation and the deportation of the slaves from Virginia. These measures were too radical for the Virginia Assembly, and were rejected. It is interesting to note, however, that all of them have since been accomplished save the deportation of the negroes.

Jefferson was governor of Virginia from June 1779 to June 1781. These were trying times; Virginia was invaded by British troops under Cornwallis, and Jefferson lacked money and resources with which to defend properly the State. His administration has often been criticized, some claiming that he was a mere doctrinaire and not a practical man; but close scrutiny shows that he did all that then lay in his power.

In 1783 Jefferson entered the Congress of the United States. To this body he proposed in 1784 a plan for the government of the Northwest Territory which Virginia so generously gave to the Union. One clause of this plan provided for the prohibition of slavery in that territory after 1800, and for this reason the plan was not adopted. In 1787, however, Congress enacted a bill for the government of the Northwest much like the original draft of Jefferson. From him Congress had the plan of our present decimal monetary system. In 1784 Jefferson was sent to France to join Benjamin Franklin and John Adams in negotiating commercial matters with foreign countries, and in 1785 he succeeded Franklin as our Minister Plenipotentiary to the French court. Through his efforts many unjust impositions on American commerce were removed by the French government.

In October 1789 he returned to America and the following year became Secretary of State in Washington's Cabinet, in which position he opposed Hamilton (q.v.), who favored the exercise of extensive powers by Congress. Jefferson believed in a real federal relation between the States, and in a restricting of the congressional powers to purely constitutional authorizations. The final line of cleavage came when Congress passed a bill to establish a national bank. Hamilton submitted to Washington a paper asserting that such a step was legal, while Jefferson made a vigorous written protest showing that the bill was unconstitutional. Washington approved the measure, thus accepting Hamilton's views as correct. The Bank Bill, along with similar congressional acts, caused the establishment of two distinct parties — the Federalist or Loose Construction party, headed by Hamilton, and the Anti-Federalist or Strict Construction party, with Jefferson as its leader. Jefferson's followers were usually called the Democratic-Republicans.

In December 1793 Jefferson resigned from the cabinet and returned to Monticello, where he remained for four years, studying farming. His estate at this time contained 10,647 acres of land, worked by 154 slaves, and stocked with 34 horses, 5 mules and 249 cattle. Among the negroes he had a sort of industrial (manual-training) school, and taught them to be cabinet-makers, bricklayers, masons and smiths.

From his retirement at Monticello, Jefferson was called to become Vice-President in 1797, a position which he held till 1801. During these four years he bitterly opposed the so-called monarchical tendencies of the Federal party as seen in the Alien and Sedition Acts (q.v.), and he boldly asserted the compact theory of State sovereignty in the Kentucky resolutions of 1799. The Kentucky resolutions and Virginia resolutions of 1798–99 (the latter framed by Madison after a copy of the Kentucky resolutions sent him by Jefferson), made the platform, so to speak, of the Democratic-Republican party which elected Jefferson as President in 1801.

From 4 March 1801 to 4 March 1809 Jefferson was President. He was the first President to be inaugurated in Washington City. He believed in rotation in office, and in pursuance of this idea removed a number of Federalists from their positions. His great act, however, was the purchase of the Louisiana Territory from France for the sum of $15,000,000. This vast territory was acquired for two reasons:

(1) In order that the United States might have control of the Mississippi River and the port of New Orleans; and (2) that the United States might not be hampered by European countries in the development of a republican form of government. As Secretary of State in Washington's Cabinet, Jefferson had practically asserted what was afterward known as the Monroe Doctrine, when he claimed that the United States should see that no European countries, other than those already holding possessions, secure a foothold in America. In 1801 Jefferson viewed with alarm the transfer of the Louisiana Territory from Spain to France, for he feared that, with France added to Spain, England and Russia, in control of colonies in America, republican government would have a hard struggle. Jefferson was accused of inconsistency for having sanctioned the Louisiana Purchase (q.v.), for if he had applied the strict construction principle of the Constitution here as in such acts of Congress as the establishment of the national bank, this territory could not have been purchased, there being no provision in the Constitution allowing territorial expansion. But Jefferson's political sagacity kept him from refusing this great opportunity, and his wish of expansion caused him to advocate earnestly the purchase of Florida from Spain. It was 13 years later before his desire was accomplished. The second administration of Jefferson was not so successful as the first. It opened with a war against the Tripolitan pirates who were plundering American commerce. The outcome of this war was to increase our influence among the nations of the world. The last years of the second term were marked with difficult complications arising out of the Napoleonic wars. Napoleon tried to prevent the United States from trading with England, and England retaliated by attempting to cut off all commercial relations between the United States and France. Many American vessels were seized by both England and France. Adding to this indignity, England claimed the right to search American vessels for English seamen, and an English war vessel actually fired on an American man-of-war, killing three of the crew and wounding 18. Jefferson tried to meet the restrictions on American commerce by the Non-Importation Bill and the Embargo Act. To enforce the measures all of the New England ships would have been shut up in American harbors. The New England merchants preferred to run the risk of losing their ships to keeping them without traffic; therefore they began to abuse the President and his policy. The result was that Congress felt forced to repeal the Embargo Act. Jefferson always claimed that had the embargo been enforced the United States would have gained its rights without the second war with England in 1812. See EMBARGO IN THE UNITED STATES.

On 4 March 1809, Jefferson retired from the White House, and spent the remaining 17 years of his life at Monticello. In these latter days he was known as the "Sage of Monticello," and to his home came people of prominence from all parts of the world to consult with him on great questions of politics and economics. Often his housekeeper had to provide beds for 50 guests. The demands which were made on his hospitality were so great that he died a bankrupt. During this period of his life he did all that he could to encourage better methods in agriculture, to reform the government of Virginia and to develop in it a better system of education. The crowning event of his life was the establishment of the University of Virginia (q.v.) in 1819. He died on 4 July 1826, just 50 years from the day that has made him famous in all history, and by a singular coincidence his old rival and political antagonist, John Adams, passed away on the same day. Jefferson asked that three things be inscribed on his tomb: "Author of the Declaration of Independence; of the Statute for Religious Liberty in Virginia, and Founder of the University of Virginia,"—three acts which have made him famous.

Jefferson stands in history for (1) Republican government and the sovereignty of the people; (2) Opposition to privileged orders of nobility and the entail system; (3) Universal education and local circulating libraries; (4) Separation of Church and State; (5) Freedom of thought and speech; (6) Local self-government; (7) Economy in government and small public debt; (8) A policy of peace; (9) Political equality and universal suffrage: (10) Strict construction of the Constitution and the sovereignty of the States; (11) Well-trained militia and small standing army; (12) Metallic money, either gold or silver, as a standard, and no paper legal tender; (13) Opposition to bounties and monopolies; (14) Emancipation and deportation of slaves; (15) Expansion of the United States to include Louisiana, Florida, Cuba and Canada; (16) Maintenance of Indian reservations; (17) Judiciary beyond the control of the legislative or executive branches of government; (18) Small navy; (19) Opposition to nepotism; (20) Rotation in office; (21) Opposition to all secession movements, North or South. This review will show that Jefferson probably gave to the world more broad principles of government than any other man. Whenever republican forms of government exist there the name of Jefferson will always be uttered with reverence and respect. Important monuments to Jefferson are as follows: by David d'Angers in the Capitol, Washington, a copy in the New York city-hall, and one at Angers, France; by Galt, at the University of Virginia; by Ezekiel, in Louisville, Ky.; by Hiram Powers, in Hall of Representatives, Washington; by Partridge, at Columbia University; and by Valentine, in Richmond, Va.

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J. A. C. CHANDLER,
Superintendent of Schools, Richmond, Va.

JEFFERSON, Tex., city, county-seat of Marion County, on the Cypress Bayou, and on the Missouri, Kansas and Texas, and the Texas and Pacific, and the Jefferson and Northwestern railroads, about 20 miles from the eastern boundary of the State and 142 miles east of Dallas. It was settled in 1850 and incorporated in 1866. It is situated in an agricultural and stock-raising region with rich iron ore deposits in the vicinity. Some of the principal industrial establishments are furnaces, machine-shops, foundries, sawmills, cottonseed-oil mills and large storage houses. The shipments are chiefly articles manufactured in the city, vegetables, grain, cotton, livestock and fruit. The principal buildings are a government building, the city and county buildings. An iron bridge across the Bayou and good roads assist in making Jefferson the trade centre for a large part of Marion and Cass counties. The government is vested in a mayor and council. The waterworks are the property of the municipality. Pop. 2,515.

JEFFERSON, Wis., city and county-seat of Jefferson County, at the junction of the Rock and Crawfish rivers, 50 miles west of Milwaukee and on the Chicago and Northwestern Railroad. It was settled in 1837 and is governed by a mayor and a council elected every two years under a charter of 1893. It has pork-packing plants, flour-mills, tanneries, brick and tile works, carriage and wagon factories and other industries. The city owns and operates the waterworks and the electric-lighting plant. Pop. 2,582.

JEFFERSON, State of, the name proposed for what is now the State of Colorado. In 1859 delegates met in an endeavor to establish a provisional government. A constitution was adopted for the "State of Jefferson" with an area somewhat larger than that of Colorado, extending from 37° to 43° north latitude and from 102° to 110° west longitude. The opposition to a State led to a second convention which, under the fiction of erecting a territory, established a new state and called it the "Territory of Jefferson." The constitution adopted by the first convention was ratified but never went into effect. The constitution adopted by the second convention was almost unanimously ratified 24 Oct. 1859, on which day a full complement of State officers was elected. The new territory was constantly embroiled with its neighbor territories, and when it was recognized by Congress in 1861, it was given the name of Colorado.

JEFFERSON BARRACKS, Mo., United States military post and reservation, 10 miles below Saint Louis on the Mississippi River. The site was chosen by Generals Gaines and Atkinson in 1826 and the camp was formally designated "Jefferson Barracks" 23 October of that year. A "School for the Instruction of Infantry" was established there under the guidance of the commander, Col. Henry Leavenworth, but was in existence only a short time. The reservation comprises 1,261 acres and includes a national cemetery. It has a post-office, telegraph and railroad stations and houses the Saint Louis powder depot. It has latterly been known as the Jefferson Barracks Recruit Depot, one of five stations for the initial reception of recruits prior to their assignment to various regiments. The post became a brigadier-general's command in 1898.

JEFFERSON-BURR IMBROGLIO, ĭm-brō'lyō, a disputed Presidential election which resulted from a defective clause in the Constitution and caused its amendment in 1800. By its original provisions, the person who received the highest number of electoral votes should be President, the next highest Vice-President. Each set of electors had informally agreed that to save the pride of the leading candidates (Jefferson and Burr, Adams and Pinckney) each pair should have equal votes, and with one exception never reflected that this meant a tie; one Rhode Island Federalist elector cast his second vote for John Jay instead of Pinckney, and there is an unproven charge that Burr intrigued for an extra vote over Jefferson. They, however, received 73 each, and the Federalist House had to choose between the two Democratic candidates. Rules were adopted for the balloting, among the chief being that the Senate should be admitted, that the balloting should be in secret session and that the House should not adjourn till a choice was made. The Federalists in caucus decided to vote for Burr; perhaps partly to spite the Democrats — Jefferson being their great national leader and the great Federalist terror, and the man the Democrats had intended to vote for as President — and partly because Burr as a New York man would consult Northern commercial interests, which the Virginian Jefferson might antagonize. They were right in this; Burr would not have laid the Embargo. Their solid vote would have elected Burr by one (nine out of 16 States); but they could not hold their members, three of whom bolted and voted for Jefferson to satisfy public feeling in their districts. Thus Jefferson had eight States, Burr six, and Vermont and Maryland were divided. But the Burr electors in the last two secretly agreed with Bayard of

Delaware, who had also voted for Burr, that if there were likely to be bad blood and danger from prolonged balloting, they would stop it by voting for Jefferson. The casting vote thus lay with Bayard, who justly commanded confidence; but as the agreement was not known the situation seemed much more perilous than it was. The balloting lasted a week without change. Some of the Federalists plotted to have it last till John Adams' term expired, and then let the others fight it out, or leave it by special act to Chief Justice John Marshall (Federalist), as a sort of regent trustee. The Democrats countered by resolving either to have Jefferson and Burr jointly (one of them certainly being President) call a special session, or to seize the capital by a militia force, call a convention, and revise the Constitution. Finally, after 34 ballots, the confederate electors decided that if Jefferson would give a guarantee for the civil service, he should have the election after one more ballot; he gave the guarantee, and was elected on the 36th ballot by 10 to 6 (States). Burr became Vice-President; that the attempt to put him at the head was mainly due to real fear for commerce is made probable by the fact that every New England State except the one (Vermont) which had no commerce voted for him to the last. This affair resulted in the passage of the Twelfth Amendment (see CONSTITUTION OF THE UNITED STATES), which obliged the electors to specify their choice for the offices on distinct ballots, and enlarge the range of choice to three candidates in case of tie.

JEFFERSON CITY, Mo., city, capital of the State, and county-seat of Cole County, on the Missouri River, and the Chicago and Alton, and the Missouri Pacific railroads, 125 miles west of Saint Louis. It is the farming and manufacturing trade centre for Cole and adjacent counties; has manufactories of flour, shoes, clothing, beer, brooms, bricks, farming implements, carriages and wagons, and iron foundries. It is the seat of Lincoln Institute, State Capitol building, State penitentiary, State armory, governor's mansion, Supreme Court building, United States courthouse and the Carnegie Public Library. It has gas and electric light plants, street car system, one national bank, four State banks and a trust company, daily, weekly and monthly periodicals, and an assessed property valuation exceeding $2,500,000. Jefferson City was settled in 1826 and was first incorporated in 1839. A mayor and council elected every two years administer the affairs of the city. Pop. 15,000.

JEFFERSON RIVER, Montana, a stream about 200 miles long, formed by the union of the Beaver Head and Wisdom (or Big Hole) rivers in Madison County. It unites with the Madison and Gallatin to form the Missouri.

JEFFERSONTON, Engagement at. Early in October 1863 the Army of the Potomac, under command of General Meade, lay around Culpeper Court House, with the advance of two corps on the Rapidan. General Lee, who was south of the Rapidan, determined to flank Meade's position, seized the Orange and Alexandria Railroad north of the Rappahannock, and intercept his retreat upon Washington. Informed of the movement, Meade withdrew his army to the north side of the Rappahannock, 11 October, his rear-guard of cavalry having a sharp engagement with the Confederate cavalry at Brandy Station. Believing that the Confederate army was moving upon Culpeper, Meade turned about and on the 12th threw three infantry corps and a cavalry division south of the Rappahannock, with instructions to push forward and find and strike Lee, if at Culpeper. When they reached Brandy Station the Confederate army was nowhere in that neighborhood. At this time General Gregg's division of Union cavalry was guarding the upper fords of the Rappahannock and Hazel rivers; on the morning of the 12th Colonel Gregg's brigade crossed the Rappahannock near Sulphur Springs; his pickets at Jeffersonton being driven in, he marched for that place, found it in possession of the enemy, drove them from the town and occupied it. That morning Fitzhugh Lee's cavalry division, leading the Confederate advance from near Madison Court House, crossed Hazel River at Stark's Ford and pressed on toward the Rappahannock. The 11th Virginia Cavalry drove Gregg's skirmishers into Jeffersonton and attacked the two regiments in the town, but was driven out after losing several men. The 7th and 12th Virginia were now sent to the left and right, encircling the town, a combined attack was made, and Gregg was utterly routed and driven across the Rappahannock, with a loss of about 400 men, most of them captured. The Confederate loss was about 40 killed and wounded. When Meade heard of the engagement, and that Lee was crossing the Rappahannock at Warrenton Springs, he hastily recrossed the river, withdrew to Auburn and Catlett's Station and, on the 14th, to Centreville, Lee following closely and attacking his rear at Auburn and Bristoe Station during the day. Consult 'War of Rebellion — Official Records' (Vol. XXIX, Washington 1889–1901); Walker, F. A., 'History of the Second Army Corps' (New York 1886).

JEFFERSONVILLE, Ind., city and county-seat of Clark County, on the Ohio River, the Baltimore and Ohio Southwestern, the Pittsburgh, Cincinnati, Chicago and Saint Louis, and the Cleveland, Cincinnati, Chicago and Saint Louis railroads, 125 miles southwest of Cincinnati, 50 miles northeast of Evansville and 108 miles south of Indianapolis. It is opposite Louisville, Ky., with which it is connected by bridges, ferry and electric street car service, the interurban lines also connecting with Charlestown, New Albany and Indianapolis. It has the deepest harbor between Pittsburgh and Cairo, is "Indiana's Gateway City" and is never affected by any flood rise of the Ohio River. At the head of the Ohio Falls an excellent water supply and superior water power are available. The city has in all 22 industries, 100 retail stores and 100 in trades, professions and miscellaneous callings. It contains United States post-office building, the Indiana State Reformatory, new high school building, Masonic Orphans' Home, Carnegie library, United States quartermaster's supply depot, American Car & Foundry Company's immense works, the Howard Ship Yards Company's plant, and several other large manufacturing plants. It has electric lights, two banks (one national) and daily and weekly papers: 13 churches of various denominations; thoroughly equipped public

school system; paid fire department; paid police force; local company Indiana National Guards; two troops of Boy Scouts, and a Chamber of Commerce, in a flourishing condition. Numerous orders and societies are represented and the population is almost entirely native-born. The total assessed valuation for taxation in 1915 was $4,197,095. It has an area of 81.68 acres; 29.39 miles of streets; 14 miles of sidewalks. The mayor and council is elected every four years. Police commissioners are appointed by the mayor. Pop. 17,000.

JEFFERY, Edward Turner, American railroad president: b. Liverpool, England, 6 April 1843. He came to the United States in 1850 and in 1856 entered the employ of the Illinois Central Railroad Company, of which he became general superintendent in 1877–85, and general manager in 1885–89, when he resigned. He visited the Paris Exposition in 1889 as the representative of the executive committee of the citizens of Chicago, and was chairman of the grounds and buildings committee of the Columbian Exposition at Chicago until 1891. He was president of the Denver and Rio Grande Railroad Company in 1891–1912, its general manager in 1891–1900 and since 1912 has acted as chairman of its board of directors. He was receiver for the Rio Grande Southern Railroad Company in 1893–95, and has since been its president. He is also president of the New Orleans and Northwestern Railroad, and is connected as director, chairman or vice-president with various other railroads and trust companies.

JEFFERY, Walter J., Australian journalist and author: b. Portsmouth, England, 20 Aug. 1861. After having been a sailor for 10 years he settled in Sydney in 1886, where he entered newspaper work and became eventually, successively, sub-manager of the *Evening News, Town and Country Journal* and *Woman's Budget,* and editor of the *Evening News.* Among his published works are 'A Century of Our Sea Story' (London 1900); 'The King's Yard'; 'History of Australia'; and 'English Naval History.' He collaborated with George Lewis Beck in 'A First Fleet Family'; 'Naval Pioneers of Australia'; 'The Mutineers'; 'Admiral Phillip'; 'The Tapu of Bunderah'; and 'The Mystery of Laughlin Isles.' He has written much on naval history of which he is an acknowledged expert; and he has contributed extensively to magazines.

JEFFERYS, Charles William, Canadian artist: b. Rochester, England, 1869. He came to Canada in early life, received his art education in Toronto and New York, and engaged in black and white illustration in the latter city for some years. His pictures of pioneer life are very effective.

JEFFREY, Edward Charles, American botanist: b. Saint Catharines, Ontario, Canada, 21 May 1866. He was graduated at the University of Toronto in 1888 and took his Ph.D. at Harvard in 1898. He was Fellow in biology at the University of Toronto in 1889–92, and lecturer in that subject in 1892–1902. He was appointed assistant professor in vegetable histology at Harvard in 1902, and is now professor of botany there.

JEFFREY, Francis, LORD, Scottish judge and critic: b. Edinburgh, 23 Oct. 1773; d. Craigbrook Castle, near Edinburgh, 26 Jan. 1850. He was educated at the University of Glasgow and Queen's College, Oxford, and was admitted to the Scottish bar in 1794. He assisted in establishing the *Edinburgh Review* in 1802 with Sydney Smith, Lord Brougham and others, and after two numbers had been issued became its editor, a position which he held till July 1829. He showed great talents as an editor, and, although many of his literary judgments have been reversed by posterity, was accounted the greatest critic of his time. In 1831 he was made lord-advocate, and sat for several years as member of Parliament for Edinburgh. He was made a lord of session in 1834, and continued during a period of 16 years to be one of the ablest and most popular judges of the Supreme Court in Scotland. Consult Cockburn, 'The Life of Lord Jeffrey' (1852); Gates, 'Three Studies in Literature' (1899).

JEFFREYS, George, 1ST BARON JEFFREYS, English judge: b. Acton, near Wrexham, Wales, 1648; d. London, 18 April 1689. He was called to the bar in 1668, and soon after was chosen recorder of London. He was appointed chief justice of Chester, created a baronet in 1680 and became chief justice of King's Bench in 1682. He was one of the advisers and promoters of the arbitrary measures of James II; and for his sanguinary and inhuman proceedings against the adherents of Monmouth on the famous "Bloody Assize," was rewarded with the post of lord high chancellor (1685). After the abdication of King James, the chancellor, who had disguised himself as a seaman, was detected by a mob and carried before the lord mayor, who sent him to the lords in council, by whom he was committed to the Tower, where he died. Consult Woolrych, 'Memoirs of the Life of Judge Jeffreys' (1827); Campbell, 'Lives of the Lord Chancellors' (Vol. IV, 1849–57); Macaulay, 'History of England' (Vols. I and II, 1856); Irving, 'Life of Judge Jeffreys' (1898).

JEFFRIES, John, American physician; b. Boston, Mass., 5 Feb. 1744; d. there, 16 Sept. 1819. He was graduated at Harvard in 1763, studied medicine at London and Aberdeen, and returning to Boston in 1769 he entered upon a lucrative practice, which continued until the evacuation of the town by the British troops, whom he accompanied to Halifax. After serving as surgeon-general of the troops in Halifax, he was appointed in 1779 surgeon-major of the forces in America. In the succeeding year he established himself in London in the practice of his profession, but also occupied himself much with scientific studies, and in the prosecution of his experiments in atmospheric temperature undertook, 7 Jan. 1785, a remarkable voyage in a balloon from Dover cliffs across the British Channel, landing in the forest of Guiennes in France. This was the first successful attempt at aërostation on an extended scale, and Jeffries in consequence received many attentions from the learned societies of Paris. In 1789 he returned to Boston, where he practised his profession until the close of his life. He announced a course of lectures on anatomy in Boston in 1789, but so great was the prejudice against the practice of dissecting that on

the evening of the second lecture a mob broke into his anatomical room. The course thus interrupted was never resumed, and the single lecture delivered by Jeffries is said to have been the first public one on anatomy given in New England.

JEHOASH, pseudonym of SOLOMON BLOOMGARDEN, Yiddish poet: b. Verzhbolovo, government of Suwalki, Russian Poland, April 1870. He came to the United States in 1890, and in 1900 he became a regular contributor to *Die Zukunft.* He had written verse from an early age and created a favorable impression with his first volume, published in America in 1907. Other volumes followed, and prior to his visit to Palestine in 1914 a collected edition of his works, including a volume of fables, was brought out in seven volumes. He edited with C. D. Spivak 'The Dictionary of Hebrew Elements in Yiddish' (1911); and besides the works already mentioned is author of 'From New York to Rehoboth and Back' (3 vols., 1917–18). In 1918 he was engaged upon a translation of the Bible into Yiddish.

JEHOIAKIM, the 18th king of Judah, was the second son of Josiah. His name was originally Eliakim. His later name was given him by the Egyptians who placed him on the throne, after deposing his brother Jehoahaz. He encouraged all the abominations and strange worship abolished by his father. He was a man of blood and oppression and reigned 11 years. The country was invaded from Babylon and Jehoiakim taken to Babylon in fetters, but was soon after reinstated on his throne. The prophet Daniel was taken to Babylon at the same time. Later Jehoiakim against the advice of the prophet Jeremiah threw off the yoke of Babylon. The closing years of his reign were full of misery. The land at the instance of the Babylonians was overrun by neighboring peoples. The death of Jehoiakim is veiled in obscurity. At any rate he died during the siege of Jerusalem before Nebuchadnezzar had arrived to conduct the campaign. His body was thrown before the walls and left there.

JEHOL, zhā'hŏl, **(Hot Stream)** or **CHENG-TE-FU,** China, city in the province Chi-li, 140 miles by road northeast of Peking, on the Luan-ho. It is the site of the imperial palace Pi-shu-shan-chuang, "mountain lodge for avoiding heat," built in 1703, in the style of Yuen-ming-yuen, the imperial palace near Peking. The palace formed a refuge for the imperial court during the occupation of Peking by the allied armies of England and France in 1860, and again in 1912 upon the abdication of the Manchu emperor. The inhabitants of the town are prosperous and there are fine shops, a considerable trade and notable productions in inlaid wares. The surrounding district is well wooded, and there are many Lama monasteries and temples, among them the famous Teshi-lumbo, and the Potalasu, which was modeled upon the style of the palace of the Grand Lama of Tibet at Potala. Pop. variously estimated at 10,000 to 25,000.

JEHORAM, or **JORAM,** the name of five Bible characters. Only two are of special importance. Jehoram, king of Israel, was the second son of Ahab and Jezebel and succeeded his brother Ahaziah, becoming the 10th king after the division of the kingdom. He reigned 12 years. Three wars occurred in his reign. Moab revolted. Jehoram with the aid of Jehoshaphat, king of Judah, and the king of Edom, defeated Mesa, the king of Moab, overrun the land and destroyed its cities. Later followed two wars with Syria. In the first the Syrian armies were led by Ben Hadad, and in the second by Hazael, newly anointed king by Elisha. Jehoram lost his throne and his life in the revolt of Jehu. Jehu himself shot the fatal arrow, and Jehoram fell on the very piece of ground which Ahab seized from Naboth, the Jezreelite, and thus fulfilled minutely the prophecy of Elisha. JEHORAM was also the name of the 5th king of Judah, who succeeded his father Jehoshaphat on the throne and reigned eight years. He married the daughter of Ahab and Jezebel, the noted Athaliah. He put his six brothers to death and become an idolater. The Edomites revolted from him and became independent. His kingdom was repeatedly invaded by the Philistines on the west and by the Arabians and Cushites on the east. His last days were filled with suffering as he was subject to a form of malignant dysentery in a most severe type. Because of his wickedness he was refused a place of burial among the kings. Elijah had admonished him from time to time without avail.

JEHOSHAPHAT, 4th king of Judah after the revolt of the 10 tribes. He was characterized as a good king. He brought about co-operative relations with the kingdom of Israel. The marriage of his son Jehoram to Athaliah was intended to cement amicable relations with the other kingdom, but final results were disastrous for the royal line. The king tried to restore the maritime commerce of King Solomon, but his fleet was wrecked on its first voyage. His alliance with Ahab was not a great success and only brought him into difficulty. His campaign, when joining with Jehoram of Israel and the king of Edom his vassal against Moab, was very successful. He received tribute from the Philistines and Arabians. His internal management of the kingdom was admirable. At one time he sent forth a commission to teach "The book of the law of the Lord" in the cities of Judah. He established local judges in every fenced city and a double court of appeals, ecclesiastical and civil, at Jerusalem. His reign was the most prosperous reign enjoyed by the kingdom of Judah. After reigning 25 years he died at the age of 60, and was succeeded by his son Jehoram (q.v.).

JEHOVAH, an erroneous pronunciation of the name of the God of Israel in the Bible, due to pronouncing the vowels of the term "Adonay," the marginal Masoretic reading, with the consonants of the text-reading "Yahweh," which was not altered to avoid the profanation of the divine name for magical or other blasphemous purposes. Hence it is pronounced "Adonay" the "Lord" or "Adonay Elohim," "Lord God." The oldest Greek versions use the term "Kurios" "Lord," the exact translation of the current Jewish substitute for the original Tetragrammation Yahweh. The reading "Jehovah" can be traced to the early Middle Ages and until lately was said to be invented

by Peter Gallatin (1518), confessor of Pope Leo X. Recent writers, however, trace it to an earlier date, being found in Raymond Martin's 'Pugeo Fidei' (1270). It was doubtless due to the fact that Christian Hebraists regarded it as a superstition to substitute any word for the divine name, or, as Professor Moore suggests, they may have been ignorant of the rule that although the consonants of the word to be substituted are ordinarily written in the margin, yet as "Adonay" was regularly read for the ineffable name, it was deemed unnecessary to note the fact at every occurrence. Of the various Yahwah, the commonly accepted spelling for names of God that appear in the Old Testament, Jehovah, occurs the most frequently. There are some divergencies in regard to its use by the Biblical writers which have given rise to the terms Elohist and Jehovist documentary sources. For example, it was made known to Moses in a vision at Horeb (Ex. iii). In Ex. vi 2, 3, it is said the name was not known to the patriarchs. It is not employed in Ecclesiastes and in Daniel is found only in Ch. ix. In many of the Psalms, Elohim occurs much more frequently than Yahweh. To avoid repetition of this name, when the name Adonay precedes, Yahweh is written by the Masorites with the vowels of Elohim and is read Elohim instead of Yahweh. Throughout the New Testament it is rendered like the Septuagint "Lord." It was pronounced by the priests only in the temple service; it was mentioned 10 times on the day of Atonement. Josephus (Antiq. ii, 12) declares that religion forbids him to make known its pronunciation. Philo in more than one passage calls it ineffable, to be uttered only by those whose ears and tongues are purified by wisdom to hear and utter it in a holy place and the penalty of death is to be expected by those who utter it unseasonably. ('De Vita Moses). After the temple services had ceased, rabbinical tradition kept up reverence for the name whose misuse evoked the words of the Mishua (Sanh. x, 1), "He who pronounces the name with its own letters has no share in the future world." It was utilized in those early centuries by healers and magicians — magic papyri preserve it in many places. Attempts at pronunciation were made by some of the Christian Fathers, but without any uniformity. It was not long before the exact pronunciation was wholly lost. There has been much speculation as to the origin and meaning of the term. Attempts to connect it with any Indo-European deity or to trace it to Egypt or China need not be considered seriously or efforts to identify it with other Semitic divinities. Exact scholarship is wanting and sources are very meagre. Even Friedrich Delitzsch was not successful in his labors to read it in Babylonian tablets of its first dynasty, before 2000 B.C. It is no less difficult to interpret its meaning. Oriental languages have a mysticism of their own and present peculiar problems to cooler and less unimaginative Western minds. Merely to give current explanation of the meaning of the word, some derive it from a Hebrew root "to fall" signifying originally some sacred object believed to have fallen from heaven; others from a root "to blow," a name for the God of the storm, and still others, with more probability, see in it the causative form of the word "to be" — he who causes to be, that is the Creator. The passage in Ex. iii, 14, where in answer to the question "What is His name?" the reply is given "I am that I am" emphasizes the idea of God as a living, active being, who was, is and ever will be, as many Jewish commentators interpret the cited phrase, "Ehyeh-asher-ehyeh." Compared with the lifeless gods of the heathen, He is the ever existing source of creation, illustrated by many passages in Holy Writ. In rabbinical tradition it has been the subject of much discussion; but it was reserved for the Cabalist in direct contradiction to the spirit of restraint and reverence that forbade the mention of the divine name to make it and its synonyms an essential part of their cosmology, giving it the power to perform miracles and create life. It was awe at the sacred name not any superstitutious fear that dictated the general Jewish reticence as to its expression by voice or pen, for in letter-writing it is not written out in full, but represented by the letter "he" or a "dalet" with an accent. Nothing could be in more marked contrast to such reticence than the glibness and frequency with which the term is used by the modern world whether as an oath or exclamation. Consult Blau, 'Das altjud. zauberwesen' (1898); Driver, 'Present Theories on the Origin and Nature of the Tetrag.' (in 'Studia Biblica,' 1885).

JEHOVIST, je-hō'vist, sometimes called JAHWIST, a hypothetic author of the Pentateuch, who used the word Jehovah, or Jahweh, as the name of God instead of Elohim, which term denotes the Supreme Being in other passages of the sacred canon. To the writer who employs the latter designation is applied the term Elohist. According to the theories of many modern Biblical critics the present Pentateuch is a compilation from two original records, one made by an Elohist, the other by a Jehovist. The Jehovist history is supposed to be the older of the two (by some critics it is dated 950 B.C.), and to have consisted of an account of Jehovists, dealings with the chosen people up to the conquest of Palestine west of the Jordan. It is a religious history of the attainment of the Promised Land. In this history was emphasized the supremacy of Jehovah as the one God, creator of the world, and the national God and Father of the chosen people, in whose affairs He interposes as He appeared to their early forefathers in the shape of a man or an angel. In the Elohist record, which is supposed to cover the same period and to have been written 700 B.C., there is a more modern interpretation of history attempted. The anthropomorphic suggestions of deity are softened, Elohim interposes merely by a voice, speaking to his people in words of encouragement or rebuke. Through the narrative of the hypothetical Elohist there runs also a tone of sadness, there are anticipations of coming disaster and disappointment.

The Jehovistic or Jahwistic editor who combined these two histories is supposed to have lived in the 7th century B.C., while in the 4th century B.C. a third post-exilic writer added to these combined elements the legal codes which swelled the Pentateuch into the Hexateuch.

JEHU, general of the army of Joram, king of Israel. The prophet Elisha sent one of the school of the prophets to anoint him king over

Israel, and in a sudden revolution Joram was slain and Jehu reigned in his stead. He was the first of a new, the 5th dynasty, and reigned 843–815 B.C. On his accession he massacred all the family of Ahab, including his wretched wife, Jezebel, and put the priests of Baal to the sword. In order to obtain possession of the kingdom of Judah he slew Ahaziah the king, and 42 of his family. But his reign was not a prosperous or successful one, and by an invasion of the Assyrians he lost all the territory east of the Jordan. His name has been found on the black obelisk discovered by Layard at Nineveh, and now in the British Museum. This obelisk was set up by Shalmaneser II, and the inscription refers to the tribute paid by Jehu to the Assyrian monarch.

JEHU, colloquial name for a coachman, or for one addicted to immoderation in driving. Its origin is from 2 Kings ix, 20, "the driving is like the driving of Jehu the son of Nimshi; for he driveth furiously."

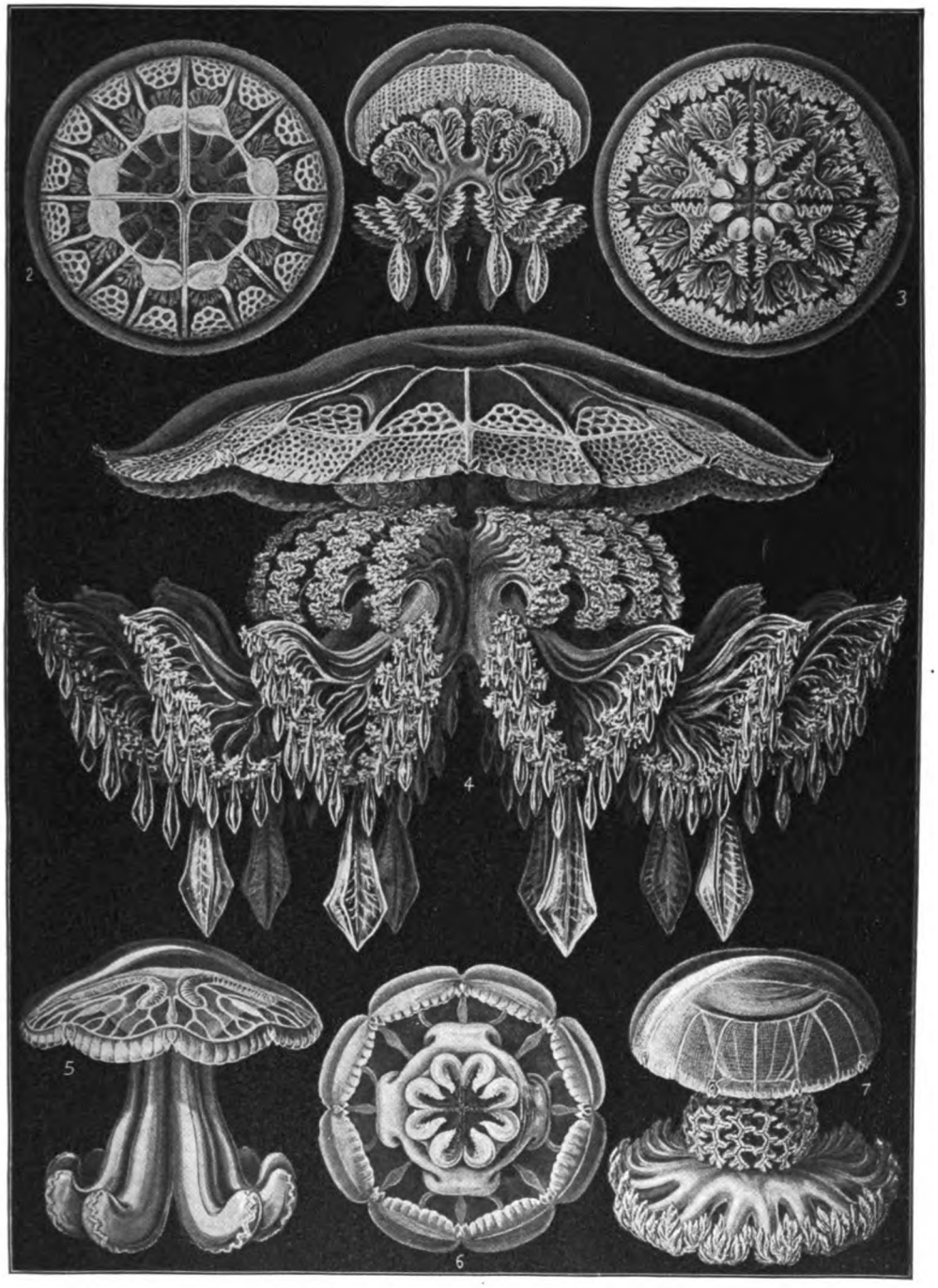
JEJEEBHOY, Sir **Jamsetjee,** Parsee merchant and philanthropist: b. Bombay, 15 July 1783; d. there, 15 April 1859. By his energy and business talents he succeeded in achieving for himself the position of the first native merchant in India, and realizing a fortune of nearly a million sterling. The munificence displayed by him toward all benevolent and public objects, without regard to class or creed, was of the most princely kind, his donations from first to last being estimated at about $1,500,000. Among benevolent institutions founded by him are the great hospital at Bombay which bears his name, the establishment in the same city for the education of poor Parsee children, and the *dhurumsallas,* or places of refuge for travelers in various parts of the country. He also constructed the causeway uniting the islands of Bombay and Salsette, the waterworks at Poonah, the bridges at Earla, Parta and Bartha, and other public works. He was knighted in 1842, and in 1857 made a baronet. A statue was subsequently erected in honor of him in the town-hall of Bombay.

JEJUNUM, jē-joo'nŭm (Latin, *jejunus,* empty), the second portion of the small intestine, succeeding the duodenum, and so named from its generally being found empty after death. The duodenum extends to about 12 inches in length, and the jejunum forms two-fifths of the remaining portion of the small intestine. See Intestine.

JELLICOE, John Rushworth (Viscount Jellicoe of Scapa), British admiral: b. 5 Dec. 1859. His father, Capt. J. H. Jellicoe, was formerly commodore of the Royal Mail Steam Packet Company, and his great-grandfather, Adm. Philip Patton, was second sea lord at the time of Trafalgar. Jellicoe entered the navy in 1872 and served as a lieutenant during the Egyptian War, 1882. About that time he began to concentrate his attention on naval gunnery and came under the influence of Lord Fisher (q.v.), the captain of the gunnery school. In 1888 Fisher, as director of naval ordnance, made Jellicoe his assistant at the Admiralty. Promoted commander in 1891, he was appointed to the training ship *Victoria* and was on that vessel when she was rammed and sunk by the *Camperdown* in the Mediterranean in 1893. As a captain he was chief of staff to Admiral Seymour in China in 1900 and was severely wounded. After a period as naval assistant to the Controller of the Navy, he commanded the cruiser *Drake* and in 1905 became director of naval ordnance. For about 15 years he had served in high commands afloat and alternately in administrative posts ashore. He was rear-admiral of the Atlantic fleet in 1907–08; third sea lord in 1908–10; vice-admiral commanding the Second Division of the Home Fleets, 1910–12; and second sea lord in 1912–14. Early in July 1914 it was announced that he had been selected commander-in-chief of the home fleets, his appointment to take effect at the end of the year on the retirement of Admiral Callaghan. On the outbreak of the European War, however, he was immediately placed in command and hoisted his flag on the *Iron Duke* on 4 Aug. 1914, the day Great Britain entered the war. He retained that high command for two years and four months, during which time he commanded the grand fleet in the important battle of Jutland. In December 1916 Jellicoe was succeeded by Admiral Beatty (q.v.) and appointed first sea lord in place of Admiral Sir Henry Jackson. A year later, in December 1917, Vice-Admiral Sir Rosslyn Wemyss became first sea lord and Jellicoe was raised to the peerage "in recognition of his very distinguished services." See War, European — Naval Operations.

JELLIFFE, jĕl'ĭf, **Smith Ely,** American physician: b. Brooklyn, N. Y., 27 Oct. 1866. He was graduated from the Brooklyn Polytechnic Institute in 1886 and in 1889 the degree of M.D. was conferred upon him at Columbia University. In 1900 he received the degree of Ph.D. from the same university. He was instructor in materia medica in Columbia University and professor of pharmacognosy in the same university. Later professor of psychiatry in Fordham University, New York, and later adjunct professor of diseases of the mind and nervous system in the Post Graduate Hospital and Medical School, New York. In his earlier academic work he was active in botany, chemistry, pharmacognosy and materia medica. Of later years he has specialized more particularly in diseases of the nervous system. Some of his earlier published works included a 'Flora' of Long Island, his Ph.D. thesis; 'A text book on botany,' another on medical chemistry, another on pharmacognosy and a revision of Butler's 'Materia Medica'; a number of translations from French, German and Italian on paranoia; the Wasserman Reaction in Psychiatry, Psychic Treatment of Nervous Diseases; the Semi-Insane, Psychoneuroses and their Treatment; Vagotonia; Dream Problem; the Myth of the Birth of the Hero and numerous minor papers. From 1900–05 he was editor of the *Medical News,* 1905–07, associate editor of the New York *Medical Journal.* In 1913 with D. W. A. White he published a 'Modern Treatment of Nervous and Mental Disease,' in 1915 with the same author a 'Textbook on Diseases of the Nervous System.' In 1907 these two authors founded the 'Nervous and Mental Disease Monograph Series,' of which 22 volumes have appeared, and in 1913 they also founded a new journal, the *Psychoanalytic Review,* a journal devoted to an understanding of human conduct.

JELLYFISHES



FORMS OF DISCOMEDUSÆ

1 Pilema giltschii (¼ natural size)
2 View of the same from above (the organs seen through the transparent convex disk or "umbrella")
3 View of the same from beneath
4 Rhopilema frida (¼ natural size)
5 Brachiolophus collaris (¼ natural size)
6 Cannorrhiza connexa
7 The same from beneath (¼ natural size)

Since 1900 he has been the managing editor of the *Journal of Nervous and Mental Disease.* In 1915 he edited 'Appleton's Medical Dictionary,' was a contributor to the 'Standard Dictionary'; to Osler's 'Modern Medicine'; Forscheimer's 'Modern Therapeutics,' and has contributed largely to the 'Encyclopedia Americana.' Dr. Jelliffe is active in practice, limiting his medical work to diseases of the nervous system, to which he has contributed a large number of smaller and larger studies, the larger of which are here briefly mentioned.

JELLY includes every translucent juice so far thickened as to coagulate when cold into a trembling mass; as the juices of acid or mucilaginous fruits, currants, etc., which, by the addition of one part of sugar to two parts of juice, and, by boiling, have obtained a proper consistence.

1. Animal Jelly.— The soft parts, such as the muscles, skin, cartilage or integuments of animals, when boiled in water, yield a solution which on cooling solidifies to a tremulous jelly. Seventy pounds of bones, when treated with one pound of water in the form of steam, at a pressure of four pounds to the square inch and simultaneously digested in five gallons of water, will yield about 20 gallons of a strong jelly.

Animal jelly seems to be nearly identical in composition with the tissues which yield it, so that we are unable to trace any chemical change, except, perhaps, the assimilation of water during the process of its manufacture. The following analysis shows the average percentage of carbon, hydrogen and nitrogen in animal jelly:

	Carbon	Hydrogen	Nitrogen
(1)	49.0	7.0	19.4
(2)	50.0	6.5	17.5

2. Vegetable Jelly.— When the juice of fruits is heated with sugar, the liquid forms a stiff jelly on cooling. It appears from the researches of Frémy and others that unripe fruits contain a compound of carbon, hydrogen and oxygen called *pectose;* as the fruit ripens, this substance is transformed into *pectin,* the change being brought about chiefly by the influence of a peculiar ferment called *pectase,* which is contained in the fruits. As pectin is soluble in water, the expressed juice of ripe fruits contains a large quantity of this substance, which on heating to a temperature of about 105° F. is converted into one or more substances which have not as yet been completely studied, but which have the property of gelatinizing on cooling. The principal of these substances are *pectosic* and *metapectic* acids. This latter acid, when boiled along with another strong acid, whether mineral or organic, is decomposed, one of the products being pectin sugar, a substance which is closely allied to glucose, so that in all probability there is produced in the very process of manufacturing jellies more or less of this sugar, which certainly is not cane-sugar, and which might, therefore, be by some regarded as an adulteration. The processes which, in the living plant, result in the transformation of pectose into pectin may be imitated on a small scale by heating the juice of unripe fruit with the pulp, which contains the ferment pectase, or with a dilute acid which induces the same change as this substance. Alkalis also produce a similar effect.

JELLYFISH, the medusa-stage of *Hydrozoa* (q.v.), but more especially the common name of *Scyphozoa* (formerly *Discomedusa*), the second class of the phylum *Cœlenterata* (q.v.). A familiar example is the common large jellyfish of the coast of New England, *Aurelia flavidula.* It sometimes reaches the diameter of 10 inches; its umbrella-shaped body is convex and smooth above, and from the under sides hang down four thick oral lobes which unite to form a square mouth-opening also giving off four tentacles. The margin of the umbrella or disc is fringed and bears eight eyes which are covered by a lobe. Just under the surface are seen the water-vascular canals, branching out from four primary canals radiating from the stomach. When in motion, the disc contracts and expands rhythmically, on the average from 12 to 15 times a minute.

The *Aurelia* spawns late in the summer, the females having yellowish ovaries, while the sperm glands of the males are roseate in hue. The eggs are fertilized in the sea and the ciliated pear-shaped larva by October sinks to the bottom, attaching itself to rocks or shells, finally assuming a hydra-like shape, with often as many as 24 long slender tentacles. This is the *Scyphistoma* stage in which it remains about 18 months. From this it passes into the *Strobila* stage in which the body divides into a series of cup-shaped discs, each of which is scalloped on the upturned edge. These discs separate one after the other in March and swim away as miniature jellyfishes called *Ephyræ.* The *Ephyra* is at first about a fifth of an inch in diameter, and becomes a fully formed *Aurelia* in April, reaching maturity in August. Another but less common jellyfish on the coast of New England and in the north Atlantic is the great *Cyanea arctica,* or "blue jelly," which is nearly two feet in diameter, sometimes from three to five, and with very long string-like tentacles, sometimes extending from 20 to 100 feet, which are filled with stinging or lasso-cells (*trichocysts*), so that the animal is poisonous to fishermen and bathers. While these forms undergo a metamorphosis, in fact, an alternation of generation, other kinds, as *Pelagia,* etc., are known to develop directly from the egg, and even the aurelia under exceptional circumstances does not pass through the scyphistoma stage. The jellyfishes are divided into a number of groups. They are most numerous in the tropical seas, comprising forms of great beauty. Consult Agassiz and Mayer, 'Acalephs from the Fiji Islands' (in *Bulletin* of the Museum of Comparative Zoology, Vol. XXXII, Cambridge 1899); Romanes, C. J., 'Jellyfish, Starfish and Sea Urchins' (New York 1885); Packard, 'Zoology' (1897); Arnold, 'The Sea Beach at Ebb-tide' (1902); Mayer, A. G., 'The Medusæ of the World' (Washington 1911).

JELUTONG (Malay), an inferior kind of rubber prepared from a large variety of rubber trees that grow wild in the swamps of Borneo.

JEMAPPES, zhĕ-map', Belgium, city in the province of Hainault, five miles southwest of Mons, on the river Haine. It was here that the French under Dumouriez won a decisive victory over the Austrians under the Duke of Saxe-Teschen, 6 Nov. 1792. It was the first victory won by the French Republic and was followed by the occupation of Belgium.

In the European War it was one of the towns occupied by the German invasion in 1914 and one of the last towns to be reoccupied by the Allied forces before the signing of the armistice 11 Nov. 1918. There are iron mines in the vicinity and the town has manufactories of glass and porcelain. Pop., commune, 14,270.

JEMEZ, hā'mās, N. M., pueblo village 45 miles west of Santa Fé, on the Jemez River, an affluent of the Rio Grande. The inhabitants are of Tanoan stock, law-abiding and prosperous and owners of productive farms. Pop. about 500.

JENA, yā'nä, Germany, town, 12 miles east of Weimar, on the left bank of the Saale. It consists of the town proper and of four suburbs. It contains a famous university which was opened in 1558 and attained its highest prosperity toward the end of the 18th century, when it numbered Schiller, Humboldt, Fichte, Schelling and Griesbach among its teachers and was attended by above 1,000 students; Arndt and Hegel later were professors here. In 1844 the number of students had dwindled to 411, but now averages about 800. It has 98 professors and instructors, who teach the different branches of law, medicine, philosophy and theology; and possesses an anatomical theatre, botanical garden, observatory, good physical and chemical cabinets and a library of 270,000 volumes. Jena lenses and optical manufactures are famous. Pop. 38,500.

JENA GLASS. Jena is one of the chief centres of the glass industry of the world and it is particularly noted for its manufactures of glass adapted to various optical and chemical uses. This industry was initiated by Abbe and Schott under grants from the Prussian government. With a view to improving the quality of the glass, an almost exhaustive study has been made of the properties of various possible mixtures of silicates, borates and phosphates. The Jena optical glasses have indices of refraction between 1.5100 and 1.9626 for the 1) line, mean dispersions for C-F between 0.00737 and 0.04882, and specific gravities between 2.46 and 6.33. Jena resistance tubing for chemical and thermometer use is a sodium-magnesium-aluminum-zinc borosilicate glass. (See GLASS). Consult Hoverstadt, 'Jena Glass and its Scientific Industrial Appliances' (New York 1902).

JENATSCH, yā'nätch, **Georg,** or **Jürg,** Swiss political leader and soldier: b. Samaden, 1596; d. Coire, 24 Jan. 1639. He was educated at Zürich and Basel and became pastor of the Protestant church at Scharaus, near Tunis, in 1617. He entered politics, espousing the cause of the Venetian and Protestant Salis family against that of the Spanish and Romanist family of Planta. He was the leader of the body which in 1618 put to death by torture the arch-priest, Rusca of Sondrio, and outlawed the Plantas. In 1621 he was one of the murderers of Pompey Planta, head of the opposition, and was forced thereafter to flee the country, abandoning his pastorate and becoming a soldier in the service of the French. The peace of 1626 between France and Spain left the Romanists in control and destroyed Jenatsch's hope of return to power. After killing his colonel in a duel he again fled from his native land, and joining the forces of the French he ably supported the Duke de Rohan in expelling the Spaniards from the Valtellina in 1635. Upon the failure of the French to restore the Protestant Grisons ascendency he turned Romanist and joined the Spaniards in the plot which led to the downfall of Rohan's power. Again failing to secure ascendency for the Grisons in the Valtellina he approached the French for support, but was assassinated by one of Planta's supporters. Later in the year the Spaniards restored the Valtellina to the Grisons, in whose possession it remained until 1797. His career is important because of its close connection with the long struggle of France and Spain for the Valtellina, one of the most sanguinary phases of the Thirty Years' War.

JENCKES, or **JENKS, Joseph,** American inventor, grandfather of Joseph Jenckes, governor of Rhode Island (q.v.): b. Colbrooke, England, 1602; d. Lynn, Mass., 16 March 1683. He came to America about 1645 and settled at Lynn, where he established the first iron and brass foundry on the Western continent, and manufactured the first domestic utensils, machinery and tools produced here. He was granted a patent "for the making of engines of mills go by water" by the legislature 6 May 1646, and also received patents for a sawmill. He executed the dies for the Massachusetts coinage of 1652, including the famous "pine-tree shilling." In 1654 he is recorded as making a contract with the selectmen of Boston for "an engine to carry water in case of fire," the first to be made in America. In 1655 he received a long-delayed patent for an improved grass-scythe which was vastly superior to any scythe then made and which has been adopted practically throughout the world without material change.

JENCKES, jĕnks, or **JENKS, Joseph,** colonial governor of Rhode Island: b. Pawtucket, 1656; d. 15 June 1740. He was a land-surveyor and was commissioner of the Rhode Island colony in settling boundary disputes with Massachusetts and Connecticut, and was afterward employed by Massachusetts in similar troubles with New Hampshire and Maine. He served in various official capacities in the colony, was member of assembly in 1700–08 and deputy governor in 1715–27. He went to England in 1721 to lay the boundary disputes before the king; and in 1727–32 he was governor of the colony, refusing re-election.

JENCKES, Thomas Allen, American legislator, "Father of Civil Service Reform": b. Cumberland, R. I., 2 Nov. 1818; d. there, 4 Nov. 1875. He was graduated at Brown University in 1838, was admitted to the bar of Rhode Island in 1840, and engaged in practice in Providence. He was retained by the United States government in its suits against the Crédit Mobilier. He was secretary of the landholders' convention in 1841, of the State Constitutional Convention in 1842, and of the governor's council upon its establishment. He was elected to the State legislature in 1845 and gained a notable triumph in his carrying against determined opposition his point that the legislature might order a new trial. He was appointed one of the commissioners to revise the laws of the State in 1855, and in 1862 he was elected to Congress, where he served until 1871. He was chairman of the committee on patents, intro-

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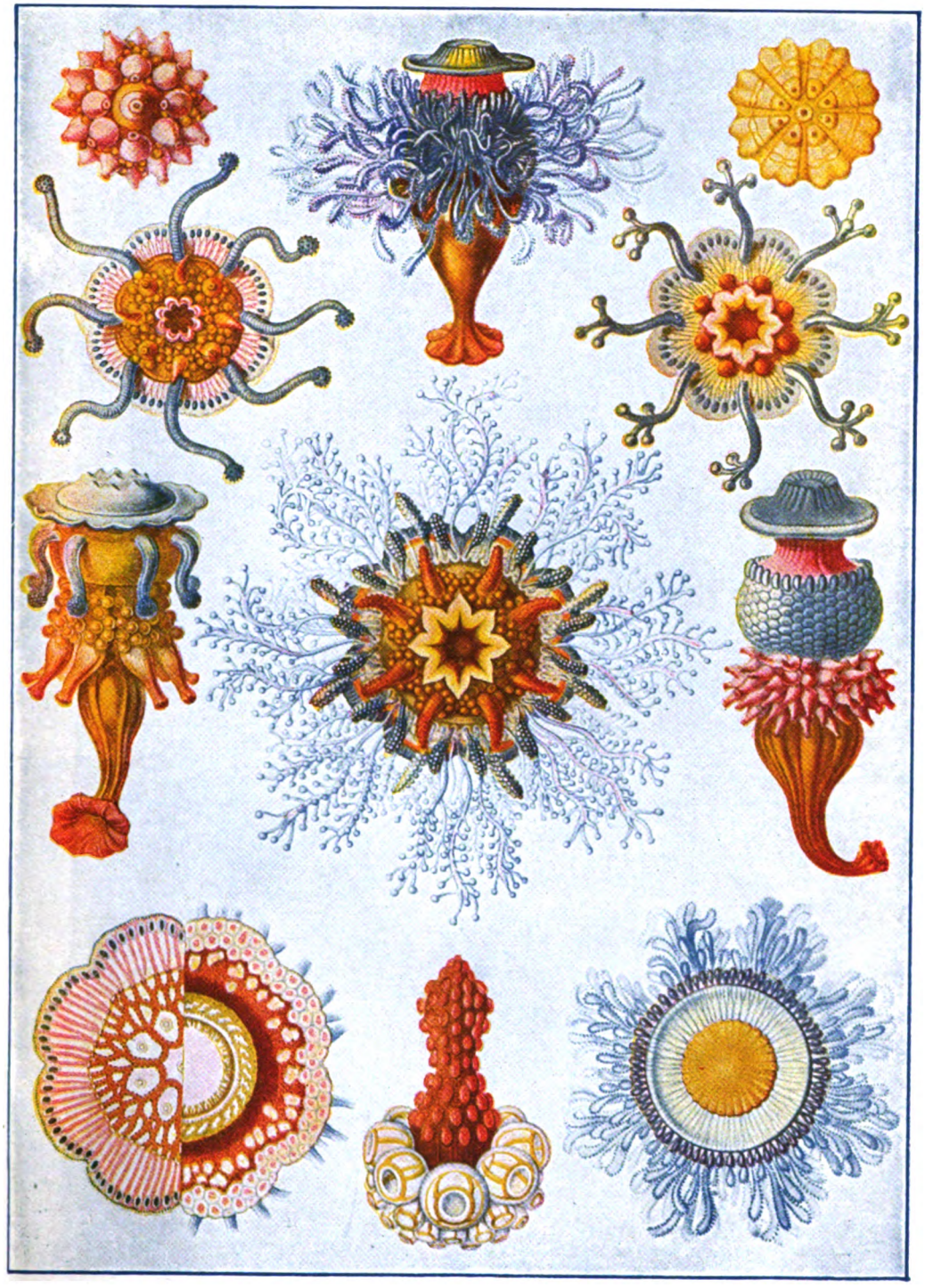

MEDUSA LIKE ANIMALS

duced and succeeded in carrying the Bankrupt Law of 1867, and gained the revision of the patent and copyright laws. He was especially prominent in the introduction of measures calculated to reform the civil service on a basis of competition and probation, and after the termination of his service in Congress still worked earnestly for it until its passage in 1883. He also obtained the passage of the bill making admission to West Point dependent upon competitive examination. He engaged in the practice of law in New York after his retirement from Congress.

JENKIN, Henry Charles Fleming, English engineer: b. near Dungeness, Kent, 25 March 1833; d. Edinburgh, 12 June 1885. He took his M.A. at the University of Genoa in 1850 and in 1851 began his career as an engineer at Manchester. He afterward was with the submarine cable-works at Birkenhead. In 1859 he became associated with Sir William Thomson, afterward Lord Kelvin, in experiments on the resistance and insulation of electric cables, and his researches on the resistance of gutta-percha were recognized as of great importance. In partnership with Thomson he worked out many problems in connection with submarine telegraphy, and was connected with the laying of many cables. His services as a consulting telegraph engineer were in large demand and his inventions, upon which he took out 35 patents, brought him large financial returns. He was elected a Fellow of the Royal Society in 1865 and in that year was appointed professor of engineering at University College, London. From 1868 until his death he was professor of engineering at Edinburgh University. He was exceptionally sound as a practical engineer and his determinative work in electricity was invaluable. He took up the work of sanitation with the vigorous thoroughness that characterized all his efforts, promoted the founding of a sanitary association in Edinburgh and materially aided the work with practical articles on the subject. At the time of his premature death he was engaged in completing an automatic electric system for the transportation of merchandise, known as «telpherage». Many of his scientific papers appeared in the *Transactions* of the Royal Society of London and the *Proceedings* of the Royal Society of Edinburgh. He was also author of 'Magnetism and Electricity' (1873); 'Healthy Houses' (1878). His collected writings, with an appreciative 'Memoir' by R. L. Stevenson, were edited by Colvin and Ewing (2 vols., London 1887).

JENKINS, Charles Jones, American jurist and statesman: b. Beaufort County, S. C., 6 Jan. 1805; d. Summerville, Ga., 14 June 1883. He was graduated from Union College, Schenectady, N. Y., in 1824, and after the study of law began practice in Augusta, Ga. He was a member of the Georgia legislature in 1830 and after a short service as attorney-general of the State was a member of the legislature 1836–50, and a leader of his party there. He was State senator 1856–60, and was a judge of the Georgia Supreme Court 1860–65. He became provisional governor of his State in 1865, holding office till 1868, and presided over the Constitutional Convention of 1877. Consult Jones, C. C., 'Life of C. J. Jenkins' (Atlanta, Ga., 1884).

JENKINS, Edward Hopkins, American agricultural chemist: b. Falmouth, Mass., 31 May 1850. He was graduated at Yale in 1872, specialized in chemistry there in 1872–75, studied at the University of Leipzig in 1875–76, and took his Ph.D. at Yale in 1879. In 1877–1900 he was chemist of the Connecticut Agricultural Experiment Station, was its vice-director in 1882–1900 and since 1900 has been its director. He was chairman of the State Sewage Commission in 1897–1903. Author of 'The Small Rock Garden' (1913) and numerous bulletins and reports published under the auspices of the State.

JENKINS, John Edward, English political and social writer: b. Bangalore, India, 28 July 1838; d. London, 4 June 1910. He was educated at McGill University, Canada, and the University of Pennsylvania, was agent-general for Canada in London, 1874–76, and sat in Parliament for Dundee, 1874–80. He became famous by the publication of his 'Ginx's Baby, his Birth and other Misfortunes' (1870), a clever satire aimed at the struggles of rival secretarians to secure control of the religious education of a derelict child.

JENKINS, Thornton Alexander, American naval commander: b. Orange County, Va., 11 Dec. 1811; d. 9 Aug. 1893. Entering the United States navy as a midshipman in 1828, he served therein during the war with Mexico. Appointed to investigate European lighthouse systems he framed the law passed in 1852 under which the existing lighthouse board is managed. He saw active service during the Civil War and was chief of the Bureau of Navigation 1865–69. From 1869 to 1871 he was naval secretary of the lighthouse board and commanded the East India squadron 1871–73. In 1870 he was appointed rear-admiral and retired from active service in 1873.

JENKINS, Ky., town in Letcher County, 129 miles from Ashland on the Sandy Valley and Elkhorn Railroad. It was founded in 1911 by the Consolidation Coal Company and developed into a model town for the operatives in the rich coal mines of the district. It has a Y. M. C. A. and is planned to give ideal housing and social conditions. Pop. estimated 5,000.

JENKINS' EAR, War of, popular name for the war between England and Spain in 1739. Robert Jenkins, an English master mariner, was on a return voyage from the West Indies in 1731 when his brig, the *Rebecca,* was boarded by a Spanish guardacosta, whose commander cut off one of his ears and committed other outrages. The story at first attracked little attention, but repeated by Jenkins before the House of Commons in 1738 it became a contributing cause to the outbreak of war the following year.

JENKINS FERRY, Battle of. During the winter of 1863–64 the Union forces of Generals Steele and Blunt held the line of the Arkansas River, with headquarters at Little Rock; the Confederates, under Gen. Sterling Price, held that of the Washita, with headquarters at Camden, which was strongly fortified. On 23 March 1864 Steele started from Little Rock southward with about 8,000 men to co-operate with General Banks' expedition up Red River, the objective point of both being Shreveport,

La. General Thayer, with 5,000 men, left Fort Smith on the 21st to join Steele at Arkadelphia, and Col. Powell Clayton, with a small cavalry force, marched from Pine Bluff in the direction of Camden, which was Steele's first objective. Steele reached Arkadelphia on the 28th, was joined near Elkins' Ferry, on the Little Missouri, by Thayer, and, after several severe skirmishes, in which the Confederates were defeated, flanked Price out of Camden, 15 April, and occupied it. Here he was fully informed that Banks had been defeated on Red River and was retreating and his own position became very precarious. Gen. E. Kirby Smith, who had been opposing Banks, marched rapidly with three divisions of infantry — 8,000 men and 14 guns — to join Price and crush Steele. Steele was too strongly entrenched at Camden to be attacked, but he was greatly harassed and nearly surrounded by the gathering Confederates, his forage-trains, with their guard, were cut off and captured, and, the loss of a large supply-train at Marks' Mills, 25 April, with nearly an entire brigade and a battery, determined him to fall back to the Arkansas River. He left Camden on the night of the 26th, crossed the Washita, and had hardly begun his movement northward when Smith and Price pressed him vigorously and kept up a running fight, which was particularly sharp on the 29th, when Steele reached Jenkins' Ferry, on the Saline River. The river was swollen, and Steele had crossed only part of his army when his rear brigade, commanded by Gen. S. A. Rice, was fiercely attacked by Price, and yielded some ground. But the brigade rallied, and, supported by a part of Engelmann's that had not yet crossed the river, engaged in a sanguinary fight lasting the greater part of the day. Three times the Confederates charged and were repulsed, and the Union line advancing, the Confederates fell back and did not renew the fight. Steele now crossed the river without further molestation, and moved leisurely to Little Rock, which was reached 2 May, and Thayer's division was sent back to Fort Smith. Price was so badly defeated that he made no effort to follow Steele north of Saline River. The Union loss at Jenkins Ferry was 63 killed, 413 wounded and 45 missing. The Confederates report a loss of 86 killed, 356 wounded and one missing. The Union loss during the entire campaign (23 March–2 May) was 102 killed, 601 wounded and 1,072 missing, a total of 1,775. Consult 'War of Rebellion — Official Records' (Vol. XXXIV, Washington 1889–1901); The Century Company's 'Battles and Leaders of the Civil War' (Vol. IV, New York 1887–88).

JENKINTOWN, Pa., borough in Montgomery County, 10 miles north of Philadelphia, on the Philadelphia and Reading Railroad. It is situated in a well-to-do farming district and has railway supply works. Pop. 3,000.

JENKS, Arthur Whipple, American Protestant Episcopal clergyman and educator: b. Concord, N. H., 9 Aug. 1863. He was graduated at Dartmouth College in 1884, received his M.A. there in 1887, and his B.D. from the General Theological in 1896. He was ordained in 1893, and was rector of Saint Luke's, Woodsville, N. H., until 1895 when he became professor of ecclesiastical history at Nashotah House, Wisconsin. He was appointed professor of that subject at Trinity College, Toronto, Canada, in 1901 and since 1910 has occupied that chair at the General Theological Seminary. Author of 'Beatitudes of the Psalter' (1914); 'Use and Abuse of Church History' (1915).

JENKS, Edward, English publicist: b. Clapham, Surrey, 20 Feb. 1861. He was educated at Dulwich College and Cambridge University; was dean of the faculty of law in the University of Melbourne, 1889–92, and Queen Victoria professor of law in University College, Liverpool, 1892–96. He was reader in English law at Oxford, 1896–1903; and is now principal and director of studies of the Law Society. He is widely known as a writer on English law, his works comprising 'Constitutional Experiments of the Commonwealth' (1891); 'The Doctrine of Consideration in English Law' (1893); 'Outline of English Local Government' (1895); 'Law and Politics in Middle Ages' (1897); 'A Short History of Politics' (2d ed., 1900); 'Parliamentary England, 1660–1832' (1903); 'Digest of English Civil Law' (1907–14); 'Husband and Wife in the Law' (1909); 'Short History of English Law' (1912).

JENKS, Jeremiah Whipple, American political economist: b. Saint Clair, Mich., 2 Sept. 1856. He was graduated from the University of Michigan in 1878, and subsequently studied in Germany, at the University of Halle. He then studied law and was admitted to the Michigan bar. In 1879–83 he was professor of Greek, Latin and German in Mount Morris College, Illinois; in 1886–89 was professor of political science and English literature at Knox College, Galesburg, Ill.; in 1889–91 professor of political economy and social science at Indiana University; and 1891–1912 professor of political economy and politics at Cornell University, Ithaca, N. Y.; in 1912 he became professor of government and director of the division of public affairs at New York University. In 1899–1901 he was expert agent for the United States Industrial Commission on investigation of trusts and industrial combinations in United States and Europe, and consulting expert for the Department of Labor on the same subject. In 1902 he was special commissioner of the United States War Department to investigate questions of currency, labor, internal taxation and police in the Orient. In 1903 he went to Mexico to consult with the Minister of Finance in regard to a change of the financial system. In 1903–04 he was a member of the United States Commission on International Exchange in special charge of reform of the currency in China. In 1907–10 he was a member of the United States Immigration Commission, and in 1906–07 was president of the American Economic Association. He is chairman of the board of directors of the Alexander Hamilton Institute. He has written 'Henry C. Carey als Nationalökonom' (Jena 1885); 'The Trust Problem' (1900; 6th ed., 1912); 'Report Industrial Commission Industrial Combinations in Europe' (Vol. XVIII, 1901); 'Report on Certain Economic Questions in the English and Dutch Colonies in the Orient' (1902). He is editor and part author of 'Reports of the United States Industrial Commission on Trusts and Industrial Combination' (Vol. I, 1900; Vol. XIII, 1901). He compiled 'Statutes and Di-

gested Decisions of Federal, State and Territorial Law Relating to Trusts and Industrial Combinations' (2 vols., 1900), and is part author and compiler of 'Reports of Commission on International Exchange' (1904, 1905); 'Citizenship and the Schools' (1906); 'Great Fortunes, the Winning, the Using' (1906); 'The Political and Social Significance of the Life and Teachings of Jesus' (1906); 'Life Questions of High School Boys' (1908); 'Principles of Politics' (1909); 'Governmental Action for Social Welfare' (1910); 'The Immigration Problem,' with W. Jett Lauck (1913; 4th ed. 1917); 'The Making of a Nation'; 'The Testing of a Nation's Ideals,' with Prof. Charles F. Kent (1915); 'Personal Problems of Boys Who Work' (1913); 'Business and the Government' (1917). He is a frequent contributor to periodical literature on economic and political questions. He is recognized as one of the foremost authorities on the trust question, and his writings are marked by scholarly and accurate investigation, combined with unusual simplicity and clearness of statement.

JENKS, Tudor, American editor and author: b. Brooklyn, N. Y., 7 May 1857. He was graduated from Yale in 1878, from the Columbia Law School in 1880, studied art in Paris in 1880–81, practised law in New York in 1881–87, and in 1887 became a member of the staff of the *Saint Nicholas Magazine* until 1902. His writings include many magazine contributions in prose and verse, and a number of books for young readers. In 1912 he resumed law-practice.

JENKS, William, American Congregational clergyman: b. Newton, Mass., 25 Nov. 1778; d. Boston, 13 Nov. 1866. He was graduated at Harvard in 1797 and was ordained in 1805, serving as pastor at Bath, Me., in 1805–17. In the meantime he was a chaplain in the War of 1812 and was for three years professor of Oriental and English literature at Bowdoin College. He settled in Boston in 1818, engaging in special work among the seamen, and founding a free chapel for them which grew into the Mariner's Church and Sailors' Home, and was the foundation of the City Missionary Society. He was pastor of the church in Greene street in 1826–45. He was a founder of the American Oriental Society, and was for many years corresponding secretary and senior vice-president of the American Antiquarian Society of Worcester, Mass. Author of 'A Commentary on the Bible,' 120,000 copies sold (5 vols., 1834; 6 vols., 1851); 'Explanatory Bible Atlas and Scripture Gazeteer' (1849).

JENNER, jĕn'ẽr, **Edward,** English physician, discoverer of vaccination as a preventive of the smallpox: b. Berkeley, Gloucestershire, 17 May 1749; d. there, 26 Jan. 1823. Having adopted the medical profession, he visited London to attend the lectures of the celebrated anatomist, John Hunter, in whose family he resided for two years. Returning to the country, he settled at Berkeley to practise his profession. His investigations concerning the cowpox were commenced about 1776, when his attention was excited by the circumstance of finding that some individuals to whom he attempted to communicate the smallpox by inoculation were not susceptible to the disease; and on inquiry he found that all such patients, though they had never had the smallpox, had undergone the casual cowpox, a disease common among the farmers and dairy-servants in Gloucestershire, who had some idea of its preventive effect. Other medical men were aware of the prevalence of this opinion but treated it as a popular prejudice; and Jenner seems to have been the first who ascertained its correctness, and endeavored to derive from it some practical advantage. He discovered that the *variolæ vaccinæ,* or cowpox, as the complaint has been since termed, could be propagated from one human subject to another by inoculation, rendering all who passed through it secure from the smallpox. In 1798 he published a short treatise — 'An Inquiry into the Cause and Effects of the Variolæ Vaccineæ' — and in July 1798, Cline, surgeon to Saint Thomas' Hospital, introduced vaccination into that institution. The practice was adopted in the army and navy and in the country generally, and soon spread to other countries, and honors and rewards were conferred on the author of the discovery. In 1802 a parliamentary grant was made to him of the sum of £10,000, and five years later a second grant of £20,000. Besides the treatise already mentioned, and 'Further Observations on the Variolæ Vaccinæ or Cow-Pox' (1799) Jenner also published various letters and papers on the same subject, as well as on others. A famous paper of his on the cuckoo appeared in the 'Philosophical Transactions' in 1788. Consult Baron, 'Life of Jenner'; Creighton, 'Jenner and Vaccination' (1889); Crookshanks 'History and Pathology of Vaccination' (1890). The last-named work contains reprints of the 'Inquiry,' the 'Further Observations,' and other papers by Jenner. See VACCINATION.

JENNER, Sir William, English physician: b. Chatham, 1815; d. London, 11 Dec. 1898. He was educated at University College, London, became in 1849 professor of pathological anatomy, and in 1860 of clinical medicine in that institution, and in 1861 physician to the queen. From 1863–72 he was appointed professor of the principles and practice of medicine in University College and in 1868 was created a baronet. He wrote various papers on specific diseases, and was the earliest to establish the difference in kind between typhus and typhoid fevers.

JENNET, a small Spanish horse with a strain of Arabian blood, of high reputation for its beauty of form and its speed. The name is of English and French usage and was perverted from its original meaning, designating a horseman of a Barbary tribe noted for its splendid cavalry.

JENNINGS, Herbert Spencer, American zoologist: b. Tonica, Ill., 8 April 1868. He was graduated at the University of Michigan in 1893 and studied afterward at Harvard and at Jena. He received an honorary LL.D. from Clark University in 1909. He engaged in teaching botany and zoology, was assistant professor of zoology at the University of Michigan in 1900–03 and at the University of Pennsylvania in 1903–05. He was appointed professor of experimental zoology at Johns Hopkins University in 1906 and since 1910 he has been Henry Waters professor of zoology and director of the laboratory there. He was director of the United States Fish Commission's Biological Survey of the Great Lakes in

1901, and in research work has specialized on the physiology of micro-organisms and animal behavior. He is associate editor of the *Journal of Experimental Zoology*, of *Genetics* and of the *Journal of Animal Behavior*. Author, with Jacob Reighard, of 'The Anatomy of the Cat' (1901); 'Behavior of Lower Organisms' (1906).

JENNINGS, Louis John, Anglo-American journalist, author and politician: b. London, 1836; d. there, 9 Feb. 1893. He was on the staff of the London *Times* in London, India and New York from 1860 until 1867, when he became editor of the New York *Times*. He attacked the Tweed Ring in the columns of the *Times* and was largely instrumental in bringing its activities to an end. In 1876 he resumed his residence in England, where he became reader for the publishing house of Murray and acted as representative of the New York *Herald*. He represented Stockport in Parliament in 1885–86. Author of 'Eighty Years of Republican Government in the United States' (1868); 'Field Paths and Green Lanes' (1877); 'The Millionaire: A Novel' (3 vols., 1883); 'Mr. Gladstone: A Study' (1887), etc. He edited Lord Randolph Churchill's 'Speeches with Notes and Introduction' (1889).

JENNINGS, Samuel, American colonial Quaker preacher: d. 1708. In 1680 he came from Buckinghamshire, England, to Burlington, N. J., and was governor of West Jersey in 1683. Becoming entangled in religious controversy he opposed the Quaker schismatic, George Keith, and in London in 1694 supported the action of the American Friends in regard to Keith. On returning to America he often made preaching tours through the various colonies, and after the recall of the English governor, Lord Cornbury, aided in restoring public order in the affairs of West Jersey.

JENNINGS, Sarah, DUCHESS OF MARLBOROUGH. See MARLBOROUGH, DUKE OF.

JENNINGS, La., town and parish-seat in Jefferson Davis Parish, 40 miles west of Lafayette, on the Mermenteau River and on the Southern Pacific Railroad. It is situated in a productive fruit, rice and lumber district, has rice- and saw-mills, and manufactures oil-well supplies. It adopted the commission form of government in 1913. Pop. 4,000.

JENSEN, Wilhelm, German author: b. Heiligenhafen, Holstein, 15 Feb. 1837; d. Munich, 24 Nov. 1911. He received his classical education at Kiel and Lübeck and studied medicine at Kiel, Würsburg and Breslau, but abandoned the profession of medicine for literature. He engaged in further private study, and for a time lived in Munich where he was in touch with the leading men of letters. He lived in Stuttgart in 1865–69, editing the *Schwabische Volks-Zeitung*, and at Flensburg he edited the *Norddeutsche Zeitung* in 1869–72. He was a resident of Kiel in 1872–76, of Freiburg in 1876–88 and from 1888 lived in Munich. He was the author of more than 100 works, including fiction, narratives and tragedies. Among them are the novels 'Die Braune Erica' (1868); 'Barthenia' (1877); 'Karin von Schweden' (1878); 'Götz und Gisela' (1886); 'Heimkunft' (1894); 'Luv und Lee' (1897); the narratives 'Aus den Tagen der Hansa' (1885); 'Heimath' (1901); the tragedies 'Dido' (1870); 'Der Kampf für's Reich' (1884), etc.

JEOPARDY, a law term covering the peril to a defendant involved in the course of a trial for a criminal offense; generally used in connection with the United States constitutional provision that no person shall twice be put in jeopardy for the same offense. Jeopardy in the legal sense is usually construed to begin for the defendant when a trial jury is impaneled and sworn to try the case and give a verdict. There are, however, some cases in which it has been held that jeopardy does not attach until after a verdict has been reached.

JEPHSON, jĕf'son, **Robert,** British poet and dramatist: b. Ireland, 1736; d. Blackrock, near Dublin, 31 May 1803. He served in the British army, attained the rank of captain of infantry and retired on half pay about 1763. For the succeeding four years he was the guest of William Gerard Hamilton and was highly popular in a circle of friends which included Garrick, Goldsmith, Reynolds, Johnson, Burke, Burney and Charles Townshend. He was appointed master of the horse to the lord-lieutenant of Ireland in 1767, thereupon removing to Dublin, where he held this position under 12 viceroys. From 1778 he held a seat in the Irish Parliament. As master of the horse he was granted a permanent pension of £300 which was afterward doubled. Most notable among his tragedies are 'Braganza' (Drury Lane 1775), which was highly praised by Walpole, and the 'Count of Norbonne' (Covent Garden 1781), in which Kemble later made a great success. Among his other tragedies are 'The Law of Lombardy' (1779); 'The Conspiracy' (1796). A series of articles published in the *Mercury*, defending with much wit and vivacity the administration of Lord Townshend as viceroy, was later published in book form, 'The Bachelor, or Speculations of Jeoffry Wagstaffe.' He wrote several farces, comedies and a musical comedy; the heroic poem 'Roman Portraits' (1794); and a satire on the excesses of the French Revolution, 'The Confessions of Jacques Baptiste Couteau' (2 vols., 1794).

JEPHTHAH, jĕf'thą, in Jewish history one of the judges of Israel (Judges xi, xii). He was a son of Gilead, and was driven from home by his brothers, but when the Ammonites made war against Israel was summoned to defend his countrymen. Jephthah after trying conciliatory measures without success, put himself at the head of the Israelites, and defeated the enemy. He had made a vow that if he was victorious he would sacrifice to God as a burnt-offering whatever should first come to meet him from his house. He was met by his daughter, his only child, whom he accordingly sacrificed to the Lord (Judges xi, 29, 40). The way in which the vow was kept has given rise to much controversy, some authors maintaining that Jephthah put his daughter to death; others that he devoted her to perpetual virginity; others that he actually sacrificed her as a burnt-offering, and that, though prohibited by law of Moses, these human sacrifices occasionally took place. He was judge for six years and was buried in Gilead. The best commentaries on Judges are by Moore and Budde.

JEPSON, Edgar, English novelist: b. London, 28 Nov. 1864. He was educated at Oxford and has published 'Sibyl Falcon' (1895); 'The Passion for Romance' (1896); 'The Keepers of the People' (1898); 'On the Edge of the Empire' (1900); 'The Horned Shepherd' (1904); 'The Lady Noggs' (1905); 'The Triumphs of Tinker' (1905); 'Tangled Wedlock' (1906); 'Arsène Lupin' (1908); 'The Girl's Head' (1910); 'The Gillingham Rubies' (1915); 'The Man Who Came Back' (1915); 'The Night Hawk' (1916); 'Esther Lawes' (1916).

JEQUITINHONHA, zhā'kē-tē-nyō'nyą, or **RIO GRANDE DO BELMONTE,** Brazil, river in the eastern coast country. It rises in the Serra do Espinhaco in the state of Minas Geraes, and flows in a northeasterly direction through the state of Bahia, emptying into the Atlantic near Belmonte, 200 miles below Bahia. The river is about 400 miles long and in the upper three-quarters of its course the current is swift. At Salto Grande, about 100 miles from the coast, is a cataract which is considered one of the grandest in South America. The river is navigable for about 60 miles from the coast.

JEŘÁBEK, yĕr'zhā-bĕk, **František,** Bohemian dramatist: b. Sobotka, 25 Jan. 1836; d. Prague, March 1893. He was educated at Leitmeritz and at Prague, and afterward engaged in teaching, journalism and the writing of plays. He edited *Pokrok* and was at different times a member of the Bohemian Diet and the Austrian Reichsrat. He was author of a history of the beginnings of romantic poetry, 'Stará doba romantickeho básnictvi' (1884). His dramas deal with social problems and include several based upon historical facts. Among them are 'Hana' (1858); 'Vesclohra' (1861); 'Služebnik svého paná,' 'Faithful Servant of His Master' (1870; Ger. trans., 1872); 'Syn člověka,' 'The Son of Man' (1878); 'Závist' (1885), etc.

JERAHMEEL, jĕ-rā-mē-ĕl, the name of a tribe friendly with David when he was in exile in Ziklag. Their founder is supposed to have been the brother of Caleb, the intimate of Joshua. The tribe is supposed to have penetrated Israel quite thoroughly and it is T. K. Cheyne's theory that many corruptions of the Old Testament text came from them. Some other Old Testament scholars have felt that Dr. Cheyne carried his theory to an extreme and saw Jerahmeelites in every Hebrew bush and root. Consult his article in the 'Encyclopædia Biblica,' and his various books on the Psalms.

JERBA, or **GERBI,** Africa, island in the Gulf of Cabes, off the east coast of Tunis, occupied by the French since 1881. Its greatest length is 20 miles and its area is 425 square miles. The land is level and the soil fertile but without either springs or rivers, the water supply depending upon wells and cisterns. The chief town, which forms the capital, market-town and seaport, is Haumt-et-suk, situated on the north side of the market. There is a fort built by the Spaniards in 1824 and a modern French fort with a French garrison. At El Kantara are extensive ruins believed to be those of the ancient Roman seaport Meninx. The island is the Lotophagitis, or Lotus-eaters' Island of the Greeks and Romans. The population consists in the main of Berbers. Industries include the raising and export of dates, olives and other fruits, the manufacture of silk-and-wool materials and a fine white pottery, and there is a sponge market open from November till March. Pop. about 45,000.

JERBOAS, jĕr-bō'ąz or jĕr'bō-ąz, small rodents of the family *Dipodidæ,* found in the sandy plains of Africa, Russia and southern Asia, and represented by a few species in North America. Their most prominent peculiarity is the great length of the hind legs, especially in the metatarsal portion, so that they look like miniature kangaroos. They walk ordinarily on their two hind feet, but when alarmed escape danger by long leaps. They are fawn-colored, as a rule, with long, slender tails, large ears, big eyes and nocturnal habits. They dwell in underground burrows and tunnels, many of which, more or less connected, are likely to be found together. Their food is mainly vegetable, but they also eat insects, eggs, etc.; they hibernate in cold climates, do not store food and are the prey of foxes, jackals, wildcats, serpents and Arab children. The most familiar species of jerboa is the Egyptian form (*Dipus ægypticus*), found in North Africa in arid places. The jumping-hare of South Africa (*Pedetes capensis*), and its ally, the jumping-mouse of North America (*Zapus hudsonius*), are also well-known examples of the family. The latter is a reddish "mouse," white underneath, which abounds all over the temperate parts of the country, and is easily recognized by its bounding gait. It is one of the longest and soundest of winter sleepers, preparing for its dormancy a warm ball-like nest of grass lodged in a bush or among strong weeds. Gerbils (q.v.) of Africa and India are often confused with jerboas, but are a group of true mice. Consult Blanford, W. T., 'Fauna of British India: Mammalia' (London 1888-90); Lyon, M. W., 'Comparison of the Osteology of the Jerboas and Jumping Mice' (Washington 1901); Lydekker, 'Royal Natural History' (Vol. III, 1895).

JERDAN, William, Scottish journalist: b. Kelso, Roxburgshire, 16 April 1782; d. Bushey Heath, Hertfordshire, 11 July 1869. He engaged in journalism in London in 1806, was present in the lobby of the House of Commons when Spencer Perceval was shot, 11 May 1812, and was the first to seize the assassin. He became editor of the High-Tory organ, the *Sun,* in 1813, and was complimented in high quarters for the freshness of his foreign news. He introduced, too, the then uncommon feature of almost daily literary articles in his columns. In 1817 he became connected with the *Literary Gazette* as editor and part owner, acquiring sole ownership in 1842, and until 1850 he edited and directed the periodical with exceptional ability. He was closely associated with many prominent writers of his time. His personal fortunes were impaired through the Whitehead Bank failure of 1808 and the panic of 1826, and the dishonesty of a friend to whom he had entrusted investments finally ruined him financially. His friends subscribed a testimonial of more than £900 and in 1853 he was granted a pension of £100 from the civil list. Among his writings the most valuable are 'Autobiography' (4 vols., 1852-53), and 'Men I Have Known' (1866).

JEREMIAH. A great Judæan prophet. He seems to have been born at Anathoth, the modern Anat, three miles north of Jerusalem, c. 650 B.C., and belonged to a priestly family residing there. His father Hilkiah has been identified with the discoverer of the law (2 Kings xxii, 28) by Clement of Alexandria, Pseudo-Jerome (c. 800), Joseph Kimchi, Paul of Burgos, Abarbanel and a number of other interpreters; and V. Bohlen supposed that father and son collaborated in the production of the code promulgated in 620 B.C. This identification was rejected by Lyranus, Calvin, Junius, Piscator and others, because he is not described as the high-priest; Castro, Sanctius, Ghisler, Sebastian Schmidt, Carpzov, Calmet, Venema, Blayney and most recent exegetes have assumed that he was a descendant of Abiathar, the priest deposed by Solomon and relegated to Anathoth (1 Kings ii, 26), and Ryssel thinks the opposition of Jeremiah to the priesthood in Jerusalem was a continuation of the rivalry between the sons of Eli and the Zadokites. It is possible, however, that in the course of four centuries members of other priestly families had moved into the town so conveniently near the capital. Jeremiah had an uncle by the name of Shallum, and a cousin named Hanamel. From Jer. xvi, 1 it may be inferred that he never married. He probably began his prophetic ministry in 625 B.C. When he heard the divine voice calling him to be a prophet to his people, he was first reluctant because of his youth, but was reassured by a vision of an almond tree the name of which suggested that Yahwe would watch over his oracles to bring them to early fulfilment, and forced to speak by a vision of a seething caldron whose smoke was blown from the north, indicating the direction whence the evil would break forth. Until recent times it was generally supposed that the enemy whose advance into Judah Jeremiah expected was the Chaldæan. Allusions to the Scythian invasion described by Herodotus (i, 105) by his contemporary Zephaniah were suspected by Pezron ('Essai sur les prophètes,' 1693), Hermann v. der Hardt ('In Iobum,' 1728) and F. C. Cramer ('Scythische Denkmäler in Palästina,' 1777). Volney ('Recherches nouvelles,' 1814) and Eichhorn (1819) identified Jeremiah's northern enemy with the Scythians, and this opinion has been adopted by the majority of critics and historians. But the older view has been maintained, not only by Kueper, Hävernick, Neumann, Tholuck, Nägelsbach, Keil, Vigouroux, Trochon, Schneedorfer, Knabenbauer and Myrberg, but also by Graf, Reuss, 1814) and Eichhorn (1819) identified Jeremiah himself and many of his hearers looked upon Yahwe's oracles of doom as conditional, so that if the conduct of the people warranted it, he would repent him of the evil he had spoken (xxvi, 17–19). With their ignorance of the secret treaties in the chancelleries of the allied nations, their narrow escape from the Scythians who naturally spared Assyrian territory must have seemed to them more marvelous than it does to us. An increased fear of Yahwe and gratitude toward him, in consequence of his deliverance, may have prepared the way for the reform of 620. Some scholars have supposed that Jeremiah went about preaching in the interest of the centralization of the cult in Jerusalem, and was persecuted by his townsmen because of his advocacy of the Deuteronomic Code. His attitude toward the temple, the sacrificial system, and the written law renders this improbable. It is significant that the prophetess Huldah, and not Jeremiah, was consulted after the discovery of the law-book. If his declaration that "the false pen of the scribes has wrought falsely" (viii, 8) referred to some other code then being prepared in priestly circles, he would have laid himself open to serious misapprehension, since those who said "the law of Yahwe is with us" undoubtedly had in mind the Deuteronomic Code that had been discovered and officially adopted (2 Kings xxii, 8; xxiii, 3). To the covenant of Yahwe, involving obedience to his commandments when he led his people out of Egypt, he sincerely answered Amen (xi, 5); but he was convinced that on that day Yahwe had not spoken concerning burnt-offerings and sacrifices (vii, 22). If the people of Anathoth conspired to put him to death (xi, 19), it was because he had rebuked them for worshiping other divinities, among them probably the goddess Anath. He may at this time have removed to Jerusalem. Practically nothing is known of his life during the next fifteen years. It is strange that the battle of Megiddo and its tragic outcome have left no echo in his extant prophecies. Like Isaiah, he was strongly opposed to any alliance with Egypt; but neither does he seem to have favored a pro-Assyrian policy (ii, 18). His silence may indicate disapproval of Josiah's course, whether it was dictated by loyalty as a vassal or ambition for additional territory as a reward for service. The Chronicler charges Josiah with having disregarded the warning of a pagan oracle not to interfere in a quarrel that was not his (2 Chron. xxxv, 21ff); and even if the story was invented to account for the fate of a good king, it nevertheless reflects a position that may well have been Jeremiah's. He ascribes to the prophet an elegy (vs. 26) which is lost and can scarcely be thought to be genuine. The Assyrian empire fell in 606, and the eyes of Jeremiah turned once more to the north to discover what Yahwe's purpose was. It was probably his unshaken faith in the oracles Yahwe had given him to utter that made it certain to his mind that the real evil would not come from the south (Egypt), but from the north. Nebuchadnezzar's march through Mesopotamia, his victory over Necho at Carchemish in 605, and his descent to the border of Egypt revealed to Jeremiah that it was not Media, into whose power Assyria proper had fallen, but Chaldæa, that was to be the scourge in Yahwe's hand to bring his people to a genuine reformation or to utter ruin. The moral condition of Judah and the character of Jehoiakim rendered the need of such a visitation obvious. It may have been when the defeat of Necho's arms had driven the people with renewed zeal to the Yahwe-cult in the temple that Jeremiah appeared with an oracle predicting the destruction of the great sanctuary in whose inviolability they believed (vii, 1ff).

In 605 Baruch is said to have written in a roll from the mouth of Jeremiah all the words

that Yahwe had spoken to him. The reason for this procedure was probably not that Jeremiah was unacquainted with the art of writing, as Buttenwieser thinks, or as a man of letters found it convenient to dictate to his private secretary from a note-book kept by him for many years, as is generally supposed, but rather, as Stade has pointed out, that he was an inspired oracle-giver whose utterances in a state of ecstacy might be written down by another. The new word of Yahwe contained, no doubt, the substance of many an oracle in the past, but the burden of its message was that the enemy from the north, long ago announced by Yahwe, now distinctly named as the king of Babylon, would come and destroy the land and its inhabitants (xxxvi, 29). When the roll was the following year cut up and burned by Jehoiakim, Jeremiah hid himself, but continued to denounce the king, e.g., for his failure to pay his workmen, and to predict for him an evil death. Nor did he think that Yahwe would help Jehoiachin, who was actually deported in 597. In the time of Zedekiah (597–586), he strenuously opposed the Egyptian party which advocated independence, and finally persuaded the king to open rebellion against Nebuchadnezzar. Another prophet, Hananiah, announced in the name of Yahwe that Jehoiachin and the exiles would return in two years; Jeremiah declared that the exile would last 70 years, and is said to have threatened Hananiah with death within a year. In 587, when Nebuchadnezzar temporarily raised the siege of Jerusalem, Zedekiah requested the prophet to consult Yahwe, and received the advice to surrender. At this time his indignation was aroused by the reduction to slavery again of freedmen emancipated at the approach of the Chaldæans. As he counseled desertion to the enemy, and by his speeches "weakened the hands of the men of war," he was imprisoned, and an attempt was apparently made to put him to death. When the city was captured he was allowed to remain in Palestine with his people. How long he survived the fall of Jerusalem is not known. After the murder of Gedaliah he is said to have been forced to accompany a number of fugitives into Egypt, and to have predicted at Daphnæ the conquest of Egypt by Nebuchadnezzar, the massacre or deportation of its people, the burning of its temples and the destruction of all the Jews in Migdol, Daphnæ, Memphis and Upper Egypt. The Elephantine papyri, discovered in 1904, have revealed the fact that there was a Jewish military colony on the island opposite Syene, having a temple of its own in 526 and continuing its existence throughout the 5th century. It probably was brought into the country by Psammetichus I. This colony was certainly not destroyed by Nebuchadnezzar. We possess no evidence of a conquest of Egypt by this king. The account of Nesu Hor, governor of Syene, was once supposed to allude to it, but it is now generally recognized that it refers to a rebellion of Libyan, Greek and Syrian garrisons in the cataract district. A badly mutilated cuneiform inscription from the 37th year of Nebuchadnezzar mentions a conflict with a king of Egypt of whose name only the syllable *su* is legible. Wiedemann and others thought that the original text must have told of a raid into Egypt. But Maspero, 'Histoire ancienne' (1899) and Breasted, 'History of Egypt' (1905) seem to be right in maintaining that no inference can be drawn except the dispatch by Amasis of naval and land forces to meet the Chaldæans and a probable loss of Syrian territory. We now know that the colony at Elephantine was not annihilated or carried away by Nebuchadnezzar, and that it continued to worship other gods besides Yahwe in a temple which was not destroyed even by Cambyses, but ruined by the priests of Chnub from Syene in 411. It may have been broken up when Egypt recovered its independence in 404; and it is not improbable that a later Palestinian writer, knowing that there had been exiles in various parts of Egypt in the time of Jeremiah, but as ignorant in regard to the history of the Jews of Elephantine as the modern world was until 1904, supposed that the earlier colonies had been destroyed by Nebuchadnezzar, and put upon the lips of the prophet oracles announcing their doom. Some interpreters who, like Duhm, are strongly convinced that as a whole these oracles cannot have come from Jeremiah, nevertheless assume a small genuine nucleus. If they are right, Jeremiah's latest prognostications were no more destined to a literal fulfilment than some of the earlier ones. Most students recognize to-day that his greatness as a prophet does not depend upon the accuracy with which he was able to foretell future events. History does not record when, where and in what manner he died. According to a legend preserved by Tertullian, Jerome, Epiphanius and Isidore of Pelusium, he was stoned to death by his people in Daphnæ, while others relate that he was brought from Egypt to Babylon by Nebuchadnezzar or returned with Baruch to Palestine. In 2 Macc. ii, 4ff, he is said to have hidden the tabernacle, the ark and the altar of incense in Mount Nebo, and in 2 Macc. xv, 12ff he appears to Judas Maccabæus, presenting him with a sword. Numerous other stories have been collected by Neumann ('Jeremias von Anathoth,' 1856) and Ginzburg ('Jewish Encyclopædia,' 1904).

The estimate of Jeremiah is necessarily affected by the evidential value assigned to the various parts of the book that bears his name. Renan considered him as a fanatic filled with hatred of the human race; but this judgment was based upon oracles against foreign nations which probably are not his. The opinion of Maurice Vernes that a prophet who gave his people the counsel to surrender is a historically impossible character arises from a failure to recognize the highest type of patriotism, and the tendency of religious genius to subordinate all considerations of state to the demands of the divinity. Certain charges of cowardice, disingenuousness, partisanship and personal animosity are in a large measure based on stories which are perhaps too unquestioningly accepted as in every detail accurate. His physical courage may not have been always equal to his spiritual boldness; he may not have been altogether free from vindictiveness, and Bennett wisely warns against picturing Hananiah and the Egyptian party as absolutely black, Jeremiah and the Chaldæan party as absolutely white. His strong sense of being in the right made him firm as a wall when the occasion de-

manded it, and also made the patriotic ardor of his opponents seem like treason against Yahwe. The popular conception of him as the «weeping prophet» is largely derived from Lamentations. There is no mistaking, however, his prevailing sadness and his tenderness of heart. The idea that he foretold a new covenant, the restoration of the monarchy, and a boundless material prosperity is based on oracles that probably were not uttered by him. It was given to this prophet to see more clearly than his predecessors how independent real religion and true morality are of the ceremonies of a temple cult, the external authority of a written law, and the shifting fortunes of political society, to enter fresh fields of spiritual experience and to open new paths of personal piety.

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NATHANIEL SCHMIDT,
Professor of Semitic Languages and Literatures, Cornell University.

JEREMIAH, Book of. One of the canonical books of the Old Testament. In the Hebrew Bible it once occupied the first position among the later prophets. A tradition preserved in 'Baba bathra,' 14b, 15a, gives the following order of these prophets: Jeremiah, Ezekiel, Isaiah and The Twelve. Vitringa suggested that Jeremiah was made to follow the books of Kings, because these were also ascribed to the prophet. Some modern scholars have thought that Isaiah was put in the third place because it contains many late additions; but these were not recognized as such, and the whole book was clearly assigned to the age of Hezekiah. The Babylonian Talmud explains the order by declaring that "the book of Kings ends in desolation, Jeremiah is all desolation, Ezekiel begins with desolation and ends with consolation, and Isaiah is all consolation." ('Baba bathra,' 14b). A manner of reasoning that would thus account for an existing order is not unlikely to have influenced the original arrangement, since the principle of placing words of comfort after words of reproof is characteristic of editorial activity not only in the larger volumes but also in the smaller collections that were gathered together to form them. But as late as the 1st century A.D. each book seems to have been written on a separate roll (Luke iv, 17), and in enumerating them the order apparently varied, as is seen in the Greek Bible and its daughter-versions where Isaiah precedes Jeremiah and Ezekiel and even Daniel is still counted among the prophets.

The Hebrew text found in our extant manuscripts presents substantially, so far as the consonants are concerned, the book as it was officially recognized in the Palestinian synagogues in the 2d century A.D., while the vocalization exhibits the tradition prevalent in the 7th. The translations into Syriac, into Greek by Aquila, Symmachus and Theodotion, and into Latin by Jerome, as well as the Aramaic Targum, testify in the main to this type. On the other hand, the earliest Greek translation, from which the Old Latin, Coptic, Ethiopic, Armenian, Georgian, Slavonic and Syro-Hexaplaric versions were made, seems to bear witness to a Hebrew text considerably shorter and in part differently arranged. Passages of some length, such as xvii, 1–4, xxvii, 19–22, xxix, 16–20, xxxiii, 14–26, xxxix, 4–13 and lii, 28–30, and others are not represented in it, and numerous duplicated utterances, single verses and words are lacking. It has been estimated that the Greek version is about one-eighth shorter than the Hebrew text. The prophecies against foreign nations, xlvi–li, are placed in the middle of the volume between xxv, 13 and xxv, 15, and the order of the nations is different. These facts have been explained in various ways. The substantial accuracy of the masoretic text has been defended and the translator himself or later copyists charged with wilful alterations, omissions and blunders by Jerome, Grabe, Spohn, Kueper, Hävernick, Wichelhaus, Nägelsbach, Graf, Keil, Frankl, Vatke, Reuss, Orelli, Payne Smith, Kühl, Strack, Kaulen, Trochon, Schneedorfer and Cornely. That the Greek version actually represents a briefer and more original Hebrew text has been the opinion of J. D. Michaelis, Eichhorn, Dahler, Movers, De Wette, Hitzig, Bleek, Neteler, Scholz, Workman, Streane, Stade, Schwally, Coste, Cheyne, Giesebrecht, Schmidt, Duhm, Baudissin, Erbt, Thackeray, Gautier, Gigot, Cornill, Peake, Sellin and Moore. Some Catholic scholars have not improperly compared the additional material in the Hebrew text with the additions to Daniel and Esther in the Greek text. In both instances we have probably to deal with interpolations and expansions already extant in the language of the original, preserved in one case by the Hebrew and the later versions, in the other by early as well as late Greek translations, but not in the Hebrew or Aramaic. The question has been raised whether there was only one Greek version of Jeremiah before the days of Aquila, Symmachus and Theodotion. Not only Justin but also Josephus and some of the New Testament writers seem to have used a translation more in accord with the masoretic text than that presented by the great uncials. It is almost certain that the author of Rev. xviii, 20, knew and imitated Jer. i, 48, and that Matt. xxvii, 32,

betrays an acquaintance with Jer. x, 7, 10. Probably Theodotion made his translation on the basis of a version already extant in the 1st century A.D. The theory of an Egyptian and a Palestinian recension, advocated by Michaelis, Eichhorn, Movers and others, has now been generally abandoned, and recent critics simply assume that we possess in the Old Greek and the Hebrew two phases, both of them relatively late, of the development of the same text.

These conclusions have naturally strengthened the suspicion of other additions to the original made before the first translation appeared. David Kimchi, Abrabanel, Luther, Calvin, Grotius and Huet considered the statement "Thus far are the words of Jeremiah" in li, 64, as showing that no part of lii was written by the prophet, and Richard Simon inferred that Jeremiah was not the only author of the book. It is generally held to-day that this chapter was either copied from 2 Kings xxv or from a source also used by the author of this work. The prophecy against Babylon, l–li, has been regarded as coming from a later hand by Eichhorn, v. Coelln, Gramberg, Maurer, Knobel, Ewald, S. Davidson, Rowland Williams, Kuenen, Herzfeld, Budde, Cheyne, Reuss, König, Driver, Kautzsch, Strack, Vatke, Wildeboer, A. B. Davidson, Schmidt, Duhm, Erbt, Baudissin, Bruston, Cornill, Bennett, Gigot, Findley, Peake, Moore, Fowler, Sellin and Creelman. Its genuineness has been defended by Kueper, Umbreit, Hävernick, Bleek, Riehm, Nägelsbach, Keil, Graf, Trochon, Kaulen, Knabenbauer, Cornely, Myrberg and Orelli. Movers, De Wette, Hitzig, Scholz and others have assumed a small Jeremianic nucleus, but the evidence seems to be strongly against this assumption. Eichhorn also expressed grave doubts as to the prophecies against foreign nations in xlvi–xlix, and they have been assigned to a later period by Vatke, Stade, Schwally, Wellhausen, Smend, Budde, Schmidt, Duhm and Marti. Many scholars, like Hupfeld, Kuenen, Rowland Williams, Cheyne, Giesebrecht, Bleecker, A. B. Davidson, Cornill, Driver and Peake, have attempted to vindicate for Jeremiah some part, greater or smaller, in the composition of these chapters, while others have sought to maintain that they are altogether his, but there is a growing impression of an irreconcilable conflict between the spirit animating them and the tone and tenor of the universally recognized utterances of Jeremiah. A sense of this contrast seems to have been felt in early times when the promises of restoration were added, xlvi, 26, xlviii, 47, xlix, 6, and xlix 39 which were still absent (probably also in xlix, 39) in the copy the first translator used.

Movers, De Wette and Hitzig noticed in xxx–xxxi a strong affinity to Isaiah xl–lxvi, and suggested that the author of the latter had edited and interpolated the former. Hupfeld ('Einleitung in das Alte Testament,' 1859; MS. in the writer's possession) suspected the two chapters of being altogether spurious "because of their close kinship to Pseudo-Isaiah"; Vatke, Stade, Smend, Schmidt and Hölscher reached the same conclusion, partly for other reasons, and Duhm and Cheyne rejected most of this work, including xxxi, 31–34, which is looked upon by many others as the Jeremianic kernel. The Aramaic verse, x, 11, was supposed by Houbigant and Venema to have been added by a later hand; the secondary character of the whole section, x, 1–16, has since then been recognized by many; and the same applies to iii, 16–18, xii, 14–17, xvii, 19–27, and other passages. A number of minor poems, psalm-fragments and elegies were marked by Stade ('Geschichte Israels,' 1889) as interpolations. Some of them have been claimed for Jeremiah by Duhm on metrical grounds. Seeing that these "confessions" have been widely used in the characterization of Jeremiah's inner life, a more searching examination of them is greatly needed. As to the historic parts, Hupfeld considered xl, 2–xlii, 6, as a later insertion, and A. B. Davidson declared xlii, 7–22, "on account of its rather debased style and other peculiarities" to be "a free construction from the hand of the historian." This sketch has been much admired for its life-likeness, and in its original form may have revealed more of the narrator's art, though this is not considered by all critics as in itself vouching for its accuracy. Pierson pointed out many apparent inconsistencies and improbabilities in the various narratives. Several interpreters have suggested that the account of the prophet's journeys to the Euphrates (xiii) is an allegory or dramatization of an oracle. Schmidt (1900) looked upon xxxv as having a similar origin, its purpose being to explain the elevation of some Rechabites into a position in the lower clerus, and questioned the age and strictly historical character of some of the other stories. In many instances Duhm (1901) independently reached similar conclusions, and they were in the main approved by Kieser. The effect of the discovery of the Elephantine papyri on this line of investigation has been discussed in the preceding article.

Already Origen and Jerome observed the lack of orderly arrangement in the book. The absence of any chronological or logical sequence seems to preclude the idea of a single author or an intelligent and painstaking editor. The superscriptions assign xxi to the reign of Zedekiah, xxv to that of Jehoiakim, xxxii and xxxiv to that of Zedekiah, xxxv and xxxvi to that of Jehoiakim, xxxvii–xxxix to that of Zedekiah, and xlv to that of Jehoiakim. Even the shorter text contains numerous duplicates. From i, 3 Grotius inferred that xl–li once formed a separate book. Spinoza assumed that the prophecies are scraps collected without arrangement from different historians, and pointed to a problem in the relations of xxi and xxxviii that has not yet been satisfactorily solved. Eichhorn (1777) supposed that as late as in the time of Josephus ('Antiquities,' x, 79) there were two distinct books of Jeremiah, viz., (1) i–xxiv and xlvi–li and (2) xxvi–xlv. The passage in Josephus is obscure, and another in Sifre debe Rab seems to refer to the book of Jeremiah and Lamentations. Thomas Paine ('The Age of Reason,' 1798) added to Spinoza's difficulties and concluded that the book is "a medley of detached and unauthenticated anecdotes." Bertholdt (1816) assumed that there were three collections, viz., (1) i–xxiv, (2) xxv, xlvi–li and (3) xxvi–xlv. De Wette and others called attention to the uncertain and sometimes even un-Hebraic character

of the many subheadings. Aside from the prophecies against foreign nations, Ewald counted 23 such headings and regarded them as marking divisions of the book. Schmidt (1900) considered them, like the titles in Isaiah and the Psalms, as clues to the smaller collections, often indicated also by additions at the end. Thackeray (1903) reached the conclusion that i–xxiv and the prophecies against Elam, Egypt and Babylon once formed a book that was first translated into Greek, the prophecies against the lesser nations and the rest of the volume forming another which was subsequently rendered into Greek by the same hand that translated the first part of Baruch. In the light of these investigations the larger collections from which the book was formed appear to have been (1) i–xx; (2) xxi–xxiv; (3) xxv, 1–13, xlvi–li, xxv, 15–38; (4) xxvi–xxix; (5) xxx–xxxiii; (6) xxxiv–xxxix; (7) xl–xlv, and the appendix lii. Of these (1) was no doubt the earliest, itself composed of several smaller collections, but united into a book of which i, 1f. was the superscription, ascribing it to the 13th year of Josiah. When (2) was added the title was probably supplemented with i, 3. There were apparently two collections of oracles against foreign nations, viz., (1) xlix, 34–39, xlvi, 1–li, with its prologue, xxv, 1–13, and (2) xlvii, xlix, 1–33, xlviii, with its epilogue xxv, 15–38, of which the former was attached to the book first translated, while the latter, once circulating separately, was made the beginning of another large volume. In (4) xxvii–xxix by peculiarities of spelling that cannot have been arbitrarily limited by the copyist of the whole book to this section shows a separate origin; in (5) xxx–xxxi is referred to as a book; and in (7) xlv is clearly an appendix. Before the end of the 2d century B.C. the entire work, including lii, was available in Greek, while probably in the next century all the oracles against foreign nations were placed in some standard codex toward the close and in a somewhat different order between xlv and lii, and many more words were added in various parts. Even if this conception of the growth of the book, in some respects analogous to that now generally held in regard to the book of Isaiah, is accepted, the problem remains how genuine Jeremianic oracles and trustworthy accounts of the prophet's life found their way into these collections. It is supposed by many scholars that Baruch's roll (xxxvi, 1 ff.) can be reconstructed by selecting those passages in the present book that may be considered as earlier than the 4th year of Jehoiakim, removing from them later accretions, and arranging them in a probable chronological order. But that roll, read three times in a day, cannot have been very extensive, and obviously had a special purpose. The only words that we know to have been in it (xxxvi, 29), and to which Jehoiakim strenuously objected, are not found anywhere in the sections that can be considered. Dahler and Herbst, therefore, maintained that it is in vain to look in the earlier chapters for the particular message of Baruch's roll. Grätz and Cheyne thought of xxv as containing its substance, a chapter now regarded by many as secondary; and Schmidt also considered it impossible to discover its precise contents. But as on this occasion the inspired utterance was taken down by Baruch, it is reasonable to suppose that on other occasions this friend or other disciples committed to writing oracles that fell from the prophet's lips. The existence of such reports, afterward expanded by many words like unto them, would account for the lack of any chronological or topical arrangement. It has been thought that a sketch of the prophet's official career was written by Baruch. The manner in which he is mentioned in xxxvi, xliii and xlv and his reputed authorship of other books have made this conjecture appear quite natural. It is altogether likely that Baruch wrote down some words of the prophet even after 605–604, and not impossible that some communications coming from him formed the nucleus of the historical sketch that existed in later times and was used by the compilers. But there is no claim or suggestion of either in the book itself. Some scholars have found a hint of it in xlv, the scribe adding to his work a rebuke and a promise that no one but himself could have known. Cornill has ingeniously suggested that the great thing he sought for himself was the deliverance of Judah from the doom announced in the roll. From Jeremiah's standpoint that was not possible except through the conversion of Jehoiakim and his people to the policy of nonresistance and subjection to the Chaldæans. But why should he not seek this, what other purpose can Jeremiah have had in sending him with the roll, and how could this be described as a selfish design? Giesebrecht, Duhm and Erbt reject the date given and place the incident after the destruction of Jerusalem, without making it more intelligible. Reuss questioned it, and Schwally regarded it as spurious. It is natural that a private oracle, designed to account for Baruch's escape, should have been placed at the end of the 7th collection, just as a similar oracle (xxix, 15–18) was placed at the end of the 6th. While it is, therefore, impossible to affirm dogmatically, what is at best only a theory, that certain parts of the present book have been copied from Baruch's roll and others taken from a biography written by him, it is wholly probable that we owe to him and such as he the preservation of some of the oracles uttered by Jeremiah, in 625 when the Scythian came down from the north and later in the reign of Josiah, as well as in the days of Jehoiakim, Jehoiachin and Zedekiah, and also of some facts in regard to his career, sufficient to give us a relatively clear idea of this prophet's message and character.

Jerome described the style of Jeremiah as rustic and inferior to Isaiah's. Lowth observed in some parts of the book the parallelism characteristic, as he saw, of Hebrew poetry. Blayney printed the text so as to bring out this feature, and it has been accepted by most modern interpreters. Thus a line was drawn between the parts written in an easily flowing prose and those having a poetic form. More recently it has been seen that a certain regular recurrence of stressed syllables, consequently a metre, also characterizes, not only such books as Job, Proverbs and Psalms and the poems interspersed in the historic records, but also the oracles of the prophets given in an exalted style. This has been applied to Jeremiah by Müller and Sievers, and more in detail by

Duhm, Cornill and Giesebrecht. A metre that without a question was used predominantly by Jeremiah has been regarded by Duhm as a criterion of genuineness. To some extent this is no doubt legitimate. But when it is considered how readily such a poetic form lends itself to imitation and how easily later scribes may have concealed it by innocent changes and additions, this test must be handled with great delicacy. The temptation to conjectural emendation on purely metrical grounds is strong, but the ancient witnesses to the text always have a first claim to consideration. Yet even this recent study of the prophet as a poet has tended to bring out more fully the force and beauty as well as the grandeur and significance of his oracles. Like the book of Isaiah that of Jeremiah is to modern scholarship a thesaurus of things old and new. Here, also, the great prophet who has given his name to the volume stands out pre-eminent, unrivaled in spiritual insight and power by those whose voices have become blended with his. Just as the seer who was called to meet the needs of his time by speaking comfortably to the heart of Zion, though the influence of his ideas has been very great, by no means has outstripped in power the mighty son of Amoz, so Jeremiah, as we are beginning to see him, is more truly a prophet to the nations than any seer pouring out his cup of fury on the pagan peoples or prognosticating for Judah a new régime of material prosperity, inspiring loyalty to king and law-book. It is doubtful whether without Jeremiah's teaching the idea of a new covenant could have been suggested, which showed its tendency when the Zadokite covenanters emigrated to Damascus, and its real strength when early Christianity went forth to establish a different type of religious communion. But the man himself who strove to free religion from the fetters of ceremonialism and the bondage to nationalism and put it on a foundation that could not be shaken by the fall of temples and of thrones, is likely to be remembered with honor when the pomp of empire and the savagery of war and the middle walls of national partition shall have passed away and given place to the nobler life of man's maturity.

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NATHANIEL SCHMIDT,
Professor of Semitic Languages and Literatures, Cornell University.

JEREMIAH, Lamentations of. A canonical book of the Old Testament. In the Greek Bible and its daughter versions, as well as in the Syriac and the Latin Vulgate, it is designated as the 'Lamentations of Jeremiah,' and it is also described in the Babylonian Talmud as 'Qinoth,' or 'Lamentations'; but in earlier times it was only referred to as 'Ekah,' 'How!' and this has remained its title in the

Hebrew Bible. In the versions it follows the book of Jeremiah, while the tradition preserved in 'Baba bathra' 14b assigned it a position among the miscellaneous writings, or hagiographa, between Canticles and Daniel; when the group of five rolls was formed, it was generally placed between Ruth and Ecclesiastes. Since it was originally anonymous, as it has continued to be in the Hebrew, and the practice grew up of reading it on the 9th of Ab, the anniversary of the capture of Jerusalem by Nebuchadnezzar, it was kept separate in the Palestinian synagogue and not connected with the book of Jeremiah, and consequently could in course of time be united with other rolls also more or less regularly read in public on certain fast and feast days. There is no very marked difference between the masoretic text and the ancient versions, though these are often of considerable value in establishing the original. Only the late Aramaic Targum shows a strong tendency to expansion, not always in good taste. Origen apparently did not have before him the translations of Aquila and Theodotion, though there can be no doubt that this book was also rendered by them, and some readings of Aquila have indeed been recorded in manuscripts (cp. Field, 'Origenis Hexapla,' 1875).

That these lamentations are written in a poetic form is too obvious not to have been observed at all times; but the precise character of this form has only gradually been discerned. The fact that four of the five chapters employ the device of an acrostic invited comparison with the alphabetic psalms, and the peculiar circumstance that ii, iii and iv exhibit in one respect a different order of the letters, Pe preceding Ayin (P before O), was as puzzling to Jerome and Lyranus as to us. It can scarcely be due to a scribal error, as it is thrice repeated, or to forgetfulness on the part of the poet, as he set out deliberately to follow the alphabet, or to an esoteric motive so carefully hidden as to be of no didactic value, or to a different order in Babylonian Aramaic preferred by the Chaldean government, as Grotius thought. At a time when the letters had not yet been used for numerical purposes, a transposition of the two letters may have been in vogue in certain circles, since it seems to be found also in Ps. ix–x, and possibly in Ps. xxxiv. In i and ii each verse consists of three members, and the verses begin severally with the successive letters of the alphabet; in iii the verses consist of single members, and three verses in succession begin with the same letter, the chapter having thus 66 verses; in iv each verse has two members only, and v is not alphabetical, but has 22 verses. Maldonat (1611) found a prevalence of 12 syllables to the stichos, but also verses of 16 and 14. Lowth recognized an unusual poetic structure and supposed the verse to be dodecasyllabic; and more recently Bickell has also spoken of the dodecasyllabic metre. De Wette observed that each member of the verse has a caesura corresponding both with the accent and with the sense; Keil noticed that this caesura divides the verse into two unequal parts; Ley discerned that the second is shorter than the first, and designated this form as elegiac pentameter; Gietmann called it endecasyllabic verse, with the arsis after the third syllable. Budde described most clearly the peculiar Qinoth metre: the verse may consist of one or more members, but each is divided by a caesura into two unequal parts, the second being shorter than the first. There is no doubt that this "limping metre" was frequently used in funeral dirges sung by "cunning women" at the wake of the dead, but it is not employed in David's elegy, and does not seem to have been reserved originally for elegiac poetry. It is the death-wail of Jerusalem, represented as a widowed and disgraced princess, that is heard in i, ii and iv; iii appears to be a poetic monologue of Israel, represented as a man, rather than an elegy, and v is not so much an elegy as a prayer, and is not in the elegiac metre, but has a peculiar assonance or rhyme, the same vowel or syllable being repeated.

In the Hebrew Bible neither title nor text contains any claim or direct indication of authorship. But the Greek version begins "after Israel was taken captive and Jerusalem laid waste, Jeremiah sat down and wept, and sang this elegy over Jerusalem." This was somewhat expanded in the Latin Vulgate; and the superscription in the Targum runs, "Jeremiah the prophet and chief priest said thus." The Babylonian Talmud also declares that Jeremiah wrote 'Lamentations.' It is interesting to observe that Bonaventura, Lyranus, Sanchez, Castro, Bellarmin, Lucas and Cornelius a Lapide attributed no canonical value to the introductions in the Greek and Latin texts. In 2 Chronicles xxxv, 25 Jeremiah is said to have sung an elegy over Josiah, according to custom chanted by singing men and women, and preserved in written form among the 'Lamentations.' It is by no means certain that the author referred to our present collection; nor would an interpretation of the extant threnodies as a funeral dirge over Josiah command much weight either by virtue of age, being centuries later than the prophet's time, or intrinsic probability. The decision rests wholly upon internal evidence. It was very natural to think of Jeremiah, the prophet who foretold and witnessed the destruction of temple, capital and state, as lamenting the fall of Zion; there was an unmistakable similarity to his style in some passages; he was a man of poetic temperament, and the peculiar metre had occasionally been employed by other prophets. Those who assumed that Jeremiah was the author assigned as the date of composition either 608, immediately after the death of Josiah, or 605, when Baruch's roll was written, or 586, in the months between the capture and destruction of Jerusalem, or the time between 586 and 570. The first view was maintained by Josephus, Jerome, Rhabanus Maurus, Bonaventura, Vatablus, Junius, Maldonat, Figueiro, Tarnovius, Calovius, Michaelis and Dathe; the second was suggested by Rashi, but rejected by Ibn Ezra; the third or fourth has been adopted by Theodoret, Procopius, Olympiodorus, Ghisler, Calmet, Blayney, Henderson, De Wette, Gerlach, Orelli, Keil, Bleek, Kaulen, Knabenbauer, Kay. Hermann von der Hardt in 1712 declared that he could not believe that Jeremiah, with his experience, had written a lamentation so diffuse and composed in such a literary fashion, but on account of the differences of style thought of Daniel, his three companions and Jehoiachin as the authors. The theory of a Jere-

mianic authorship was also abandoned by Augusti (1806), an anonymous writer in *Tübingische Quartalschrift* (1819), Kalkar, Bunsen, who thought of Baruch as author, Ewald, Nöldeke, Kuenen, Schrader, Nägelsbach, Vatke, Wellhausen, Cornill, Löhr, Budde, Cheyne, Driver, Strack, Selbie, Baudissin, Gigot, Gautier, Sellin, Moore, Beer, Gunkel, Creelman, Peake. They have urged important divergencies from the peculiarities of Jeremiah in language, style and thought, and especially in the attitude toward the monarchy, the Egyptian alliance, the priesthood and the temple cult. Thackeray called attention to the fact that Lamentations was not translated into Greek by either of the two men to whom we owe the version of the Prophecies. Thenius regarded ii and iv as coming from the prophet's pen, the remaining chapters as later; Fries thought that i–iii were Jeremianic, iv–v Maccabæan. There is a tendency at present toward ascribing ii and iv to the same author and to the latter part of the Persian period, i and v to different authors at the end of this period and iii to a poet living in the 3d century. Reuss justly observed that the profound impression these lamentations make on the reader is due to the nature of the subject rather than to any literary qualities shown in its treatment. The interest that always attaches itself to misfortune excites our sympathy in the highest degree, and we can but admire the touching personification of Jersualem as a widow seated by the wayside, reminding of the *Capta Judea* figured as a woman in mourning on the Titus arch, or of the people as a man of sorrows, recalling the suffering servant of Yahwe in the anonymous additions to Isaiah. This impression is somewhat weakened by the numerous repetitions, the monotonous length, the lack of logical development and the restraints imposed by a mechanical form. It is probable that the elegies were produced for liturgical purposes in connection with the commemoration of the great calamity.

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NATHANIEL SCHMIDT,
Professor of Semitic Languages and Literatures, Cornell University.

JÉREZ DE LOS CABALLEROS, hā'rāth dā lōs ká-bą-lyā'rōs (JEREZ OF THE KNIGHTS), Spain, town in the province of Badajoz, situated on the hills overlooking the river Ardila, a tributary of the Guadiana, 12 miles east of the Portuguese frontier, and 39 miles south of the city of Badajoz. The older part of the town has a Moorish wall with six gates, and there is a fortress with three imposing towers. The situation is picturesque and the newer sections are well built. The town has no railway connection and its trade is chiefly in the products of the rich farming and fruit district surrounding it, the district being especially noted for hams and bacon. The town is thought to have been founded by the Phœnicians, and was taken from the Moors by Alfonso IX, of Leon, in 1229. It was enlarged by his son, Saint Ferdinand, in 1232, and given to the Knights Templar, whence its name. Pop. 10,271.

JÉREZ DE LA FRONTERA, hā'rāth dā lä frŏn-tā'rą, or **XÉREZ,** or **XERES,** Spain, city in the province of Cadiz, about seven miles from the Atlantic Coast and 33 miles by rail from Cadiz, near the river Gaudalete and on the Seville-Cadiz Railroad. It is famous for its vast vineyards and the manufacture of sherry wine, which takes its name from the town. The surrounding district comprises a fertile plain of wide extent, and besides the vineyards there is a large production of grain, fruit and livestock. There is a 15th century church of San Miguel, a 16th century townhall, which, however, is officially superseded by a modern building, a bull-ring, academies of law, medicine and commerce, and modern hospitals and charitable institutions. The great *bodegas,* or wine cellars for the manufacture and storage of wine, are among the chief objects of interest in the town. Jerez was at one time a Roman colony but fell into the hands of the Moors, from whom it was captured by Ferdinand III of Castile, but the Moors twice recovered it before it came permanently into Spanish possession upon its capture by Alfonso X in 1264. In 711 it was the scene of the victory of the Saracens under Tarik over the West Goths under Roderick. In earlier times the town suffered heavily from yellow fever but purification of the water supply in 1869 practically eliminated the trouble. Pop. 10,940.

JERFALCON, jĕr'fâ"kn, or **GYRFALCON,** a large and bold falcon of the Scandinavian mountains (*Falco gyrfalco*), represented by closely allied species or varieties in Iceland, Greenland and the Hudson Bay region, whose plumage is prevailingly white, with more or less blackish markings, especially about the face. It is one of the largest, strongest and most impetuous of its race; and has always been highly prized by falconers, among whom, by ancient laws, its use was restricted to men of ducal and

princely rank. The bird is a rare winter wanderer to the United States from Arctic Canada, where it breeds, and survives the winter mainly by killing ptarmigan.

JERICHAU, jā'rē-kow, **Jens Adolf,** Danish sculptor: b. Assens, Funen, 17 April 1816; d. Copenhagen, 25 July 1883. He studied at Copenhagen and under Thorvaldsen at Rome. His first notable production was a frieze in the Royal Palace at Christiansborg, its subject being the marriage of Alexander the Great and Roxana; and in 1846 he produced the heroic group 'Hercules and Hebe.' He was appointed professor at the Academy of Copenhagen in 1849. He was married to Elizabeth Baumann, a genre painter of distinction: b. Warsaw, 21 Nov. 1819; d. Copenhagen, 11 July 1881. Their son, Harald, became a landscape painter: b. Copenhagen, 17 Aug. 1852; d. Rome, 6 March 1878. Jerichau's further works include monuments to Oersted and Anderson at Copenhagen; 'Penelope'; 'Adam and Eve after the Fall'; 'Christ'; 'David,' etc.

JERICHO, jĕr'ĭ-kō, a once important city of ancient Palestine, near the foot of the mountains, on the west side of the Jordan plain, northeast of Jerusalem. Its name means «city of palms.» The site is marked by mounds of sun-dried bricks, and called Tel es-Sultan; gardens and a fine spring are found there. The palms and balsams for which Jericho was formerly famed have disappeared. At the conquest of Palestine by Joshua, Jericho was the key to the country and was miraculously captured, destroyed by fire and its rebuilding forbidden under a curse. Excavations carried on by Sellin and Watzinger have revealed interesting caves and ruins. It is now a poor village, much visited by tourists. It has two hotels, a Russian monastery and church. During the European War Jericho was captured by British troops under General Allenby on 21 Feb. 1918. Under its modern name of Eriha, the village that now stands on the site of ancient Jericho consists of some 300 wretched hovels and huts. Pop. about 300.

JERKED BEEF, beef cut into strips of about an inch thick, and dried in the sun. This method of preserving meat has been largely adopted in South America and Australia. Cut from the animals when in good condition these strips of flesh dry in the sun before decomposition commences, and will keep for any length of time. In the United States, jerked beef is common in the Southwest.

JERMYN, jer'mĭn, Pa., borough in Lackawanna County, 12 miles northeast of Scranton, on the Lackawanna River, and on the Delaware and Hudson, and the New York, Ontario and Western railroads. It is located in a rich coal mining region, has powder mills and other manufacturing interests. Pop. 3,158.

JEROBOAM I, the first king of Israel, the northern kingdom. Having conspired against Solomon, he was obliged to escape to Egypt, where he remained until the monarch's death. He then returned to lead an insurrection against Rehoboam, which ended in the formation of the kingdom of Israel, composed of the 10 revolted tribes. These tribes worshipped at Bethel and Dan, instead of going to Jerusalem. Jeroboam reigned from about 937 B.C. to 915 B.C.

JEROBOAM II, king of Israel. He was the son of Joash. He reigned from about 782 B.C. to 741 B.C. His reign was evidently an active one. He was a skilful warrior, and regained territory which had been captured by the king of Aram in previous reigns. It was during Jeroboam's time that Hosea and Amos announced their prophecies.

JEROME, jĕ-rom' or jĕr'ōm, **Saint** (EUSEBIUS HIERONYMUS SOPHRONIUS), a father of the Latin Church: b. Stridon, between Styria and Hungary, about 331; d. Bethlehem 420. His parents educated him with care in literary studies and he read the Greek and Roman classics at Rome under the famous grammarian Donatus. He did not escape uncontaminated by the licentiousness of the capital; but soon became inclined to the Christian faith. The catacombs and tombs of the martyrs first excited his devotion. His travels on the Rhine and in Gaul made him acquainted with several Christian preachers, and he was eventually baptized. After a long residence at Aquileia he went in 373 to Antioch in Syria, where he passed through a spiritual crisis and renounced pagan learning, and in 374 retired to the deserts of Chalcis. There he spent four years as a hermit in the severest mortifications and laborious studies. He left his solitude again to be ordained priest at Antioch, but soon after went to Constantinople to enjoy the instruction of Gregory Nazianzus. In Rome, where he became literary secretary to Pope Damasus, he made his appearance as a teacher. His expositions of the Holy Scriptures found favor with the Roman ladies, and many placed themselves under his spiritual direction. Marcella and Paula, rich patricians, are celebrated for the learned and ingenious theological epistles he wrote them, and for their rare monastic piety. Paula accompanied him to Palestine in 386, where he founded a convent at Bethlehem; here he remained till his death. His writings show his active participation in the controversies of his day, and his letters give a very vivid idea of the condition of society at Rome. They are full of satiric strictures on the corrupt clergy, and are often as biting as Juvenal or Martial. Many of them are profoundly touching and full of fervent piety; others are lampoons traversed with vehement invective with the spirit of Plautinian ribaldry. His Biblical labors are highly valuable; his Latin version of the Old Testament from the original language is a marvelous achievement, and it may be said that ecclesiastical Latin, originated with Jerome's Vulgate. His principal claim to the gratitude of the Church is that he was the founder of Latin monasticism. Consult Farrar, 'Lives of the Fathers' (1889); Largent, 'Saint Jerome'; Sanders, 'Etudes sur Saint Jerome' (1903), and the English translation of the works in the 'Library of the Nicene and Post-Nicene Fathers' (1892).

JEROME, Jerome Klapka, English humorist: b. Walsall, 2 May 1859. He was at first a clerk in a railway office, afterward actor, school-master and journalist by turns. After many discouragements he succeeded in making a popular hit with his book, 'On the Stage — and Off' (1888), largely autobiographical. His

'Idle Thoughts of an Idle Fellow' (1889) and 'Three Men in a Boat' (1889) made him famous in America as well as at home. He edited the 'Idler' with Robert Barr (q.v.) (1892–97); 'To-Day' (1892–97); and has published several successful comedies: 'Sunset' (1888); 'New Lamps for Old' (1890); 'Miss Hobbs' (1900), etc. He is also author of 'John Ingerfield' (1894); 'Sketches in Lavender' (1897); 'Observations of Henry' (1901); 'Paul Kelver' (1902); 'Susan in Search of a Husband' (1906); 'The Passing of the Third Floor Back' (1907), the stage adaptation of which was most successfully produced by Sir Johnston Forbes-Robertson; 'They and I' (1909); 'The Master of Mrs. Chilvers' (1911); 'Esther Castways' (1913); 'The Great Gamble' (1914); 'Poor Little Thing' (1914); 'The Street of the Blank Wall' (1916); 'Malvina of Brittany' (1917); 'Cook' (1917), etc. He gave a series of readings in the United States in 1914.

JEROME, Thomas Spencer, American classical scholar: b. United States, about 1863; d. Capri, Italy, 1914. He was the son of David Howell Jerome, 18th governor of Michigan, and was graduated at the University of Michigan in 1884, later studying law at Harvard. He engaged in the practice of law in Detroit; but, possessed of abundant means, he went to live at Capri, where he devoted himself to the critical study of Roman history and acted as consular agent. His premature death prevented the completion of his work, of which the only published effort is 'Roman Memories in the Landscape Seen from Capri' (1914), which was published posthumously but was finished at the time of his death and is considered of exceptional value.

JEROME, William Travers, American lawyer and politician: b. New York, 18 April 1859. He entered Amherst College, but indifferent health compelled him to leave. He graduated from the Columbia Law School in 1884. In 1888 he was appointed assistant district attorney, in which position he saw much of the political corruption prevailing in the city. In 1890 he was active in the Municipal League, which opposed Tammany; in 1893 was assistant counsel of the Lexow Committee, in 1894 a member of the committee of 70 and manager of the campaign which resulted in the election of Mayor Strong. In the same year the mayor appointed him judge of the Court of Special Sessions. In 1901 he was active in the Fusion campaign against Tammany; and in 1902 was elected district attorney of New York County; immediately after his election he established headquarters in the East Side of New York, in order to be within easy reach of the people who most needed his assistance; in this official position he has done very effective work in the breaking down of the system of protection of vice and maladministration of justice. In 1905 he was again elected district attorney on an independent ticket by 16,255 plurality. In this capacity he conducted the prosecutions of Harry K. Thaw for the murder of Stanford White; and he was retained as counsel for the State of New York in the subsequent legal proceedings.

JEROME, Ariz., town in Yavapai County, 28 miles northeast of Prescott, and on the United Verde and Pacific railroads. There are extensive mining interests, including copper and gold; and the town has copper smelters and kindred industries. Pop. 2,393.

JEROME OF PRAGUE, Bohemian religious reformer: b. Prague, about 1370; d. there, 30 May 1416. He was educated at the universities of Prague, Paris, Oxford, Cologne and Heidelberg; and was in faith and sufferings the companion of the famous John Huss, whom he excelled in learning and eloquence, and to whom he was inferior only in moderation and prudence. His reputation for learning was so great that he was employed by Ladislaus II of Poland to organize the University of Cracow; and Sigismund of Hungary caused Jerome to preach before him in Buda. He took a zealous part at Prague in the contest of his friend Huss against the authorities, and not unfrequently proceeded to violence, causing the monks who opposed him to be arrested, and even had one thrown into the Moldau. He publicly burned in 1411 the bull of the crusade against Ladislaus of Naples and the papal indulgences. When Huss was imprisoned in Constance he could not remain inactive, and hastened to his defense. But attempting to return to Prague the Duke of Sulzbach caused him to be arrested in Hirschau and carried in chains to Constance. After an imprisonment of half a year he consented on 11 Sept. 1415 to recant the heresies with which he and Huss were charged. But this recantation did not deliver him, and after languishing a year, he solemnly retracted his recantation. On 30 May he was burned at the command of the council and his ashes thrown into the Rhine.

JERRARD, jĕr'ärd, **George Birch,** British mathematician: b. about 1803; d. Long Stratton, Norfolk, 23 Nov. 1863. He was graduated at Trinity College, Dublin, in 1827 and became known for his work in connection with the theory of equations, especially his contributions toward the solution of the general quintic equation, which was afterward developed along the lines followed by Jerrard, Arthur Cayley and Sir James Cockle. Author of 'Mathematical Researches' (1832–35)' 'An Essay on the Resolution of Equations' (1859).

JERROLD, jĕr'ŏld, **Douglas William,** English dramatist and humorist: b. London, 3 Jan. 1803; d. Kilburn Priory, near London, 8 June 1857. He was a midshipman in the navy 1813–15, and then quitting the service, was bound apprentice to a printer in London. By hard study he made himself master of Latin and Italian, besides acquiring an extensive knowledge of general literature, and at first attempted dramatic criticism. The bent of his genius, however, lay mainly in the direction of dramatic writing. Numberless pieces were produced by him before he was 20, but the first which won decided popularity was 'Black-eyed Susan,' presented for 300 successive nights at the Surrey Theatre in 1829. Fortunes were made out of the play; but the author only got $300 for it. Among Jerrold's subsequent dramas were the 'Rent-day'; 'Nell Gwynne'; 'The Housekeeper'; 'Prisoner of War'; 'Bubbles of a Day' and 'Time Works Wonders,' the last named one of the most successful comedies on the English stage. He founded and conducted successively the *Illuminated Magazine* and *Douglas Jerrold's Shilling Magazine,* was

a member of the literary staff of *Punch*, and in 1852 became editor of *Lloyd's Weekly Newspaper*. To this he contributed 'Mrs. Caudle's Curtain Lectures'; 'Punch's Letters to his Son'; the 'Story of a Feather.' He wrote several novels, among which are 'The Mad Mode of Money', and 'Chronicles of Clovernook' (1846). A selection of his essays, edited by his grandson, Walter Jerrold, appeared in 1903. Though a powerful master of satire, he never allowed his wit, whether as an author or in private life, to be tinged with malevolence. Consult Jerrold, W. B., 'Life and Remains of Douglas Jerrold' (1859); Jerrold, W. C., 'Douglas Jerrold and Punch.'

JERROLD, William Blanchard, English journalist and miscellaneous writer, eldest son of Douglas Jerrold (q.v.): b. London, 23 Dec. 1826; d. there, 10 March 1884. He succeeded his father in 1857 as editor of *Lloyd's Newspaper*, and as such strongly espoused the cause of the North in the American Civil War. Some of his leading articles on this subject were, by instruction of the American authorities, placarded and displayed in New York. He was the author of a very successful farce, 'Cool as a Cucumber' (1851), and other plays. He also wrote 'Swedish Sketches' (1852); 'Life of Douglas Jerrold' (1858), and 'Life of Napoleon III', his greatest work, which was completed in 4 vols. between 1874 and 1882.

JERSEY, Island of, the largest, most important and most southerly of the Channel Islands, lying in the English Channel, and belonging to Great Britain. It is 12 miles long and from four to seven miles wide, and has an area of 45 square miles. The distance to the coast of France is about 15 miles. Rugged and precipitous in the north, the interior is mostly table-land and is well-wooded. The principal town is Saint Helier. Pop. 28,000. The island is famous for a breed of cattle. Fruit and potatoes are largely grown, and are exported in enormous quantities. The island was part of the old Norman provinces brought with the Conquest to the Crown of England. The speech of the farming population is a *patois* Norman French, but English is spoken everywhere, while the use of modern French and English is a bi-lingual feature of the courts and states governing body. Pop. 52,000.

JERSEY CATTLE. See CATTLE.

JERSEY (jėr'zĭ) **CITY,** N. J., the most important suburb of New York since the annexation of Brooklyn, the second largest city in New Jersey, and seat of Hudson County. It occupies about five miles of the Hudson River frontage opposite lower New York: Paulus Hook, its starting point, is exactly opposite the Battery. It lies on a peninsula between the Hudson and New York Bay on one side, and the Hackensack and Newark Bay on the other; and is limited on the south by Bayonne, which takes up the lower end of the peninsula, and on the north by Hoboken. It has several ferry lines to different portions of New York, operated by the great railroads which have their terminals here — all the roads from the south and west: the Pennsylvania, Erie, Baltimore and Ohio, Lehigh Valley, Delaware, Lackawanna and Western, New York, Susquehanna and Western, Central of New Jersey, and the West Shore line of the New York Central. The Morris Canal ends here. Jersey City is also the terminal of several of the most important steamship lines between New York and Europe. Its area is 12,228 acres, or 19.1 square miles.

The city lies on a flat meadow about a mile wide from the river back to a sharp bluff; the business section occupies the former, the residence district the latter, with some very handsome streets of costly dwellings. The municipal improvements are of a high and thorough grade: paving (nearly all the streets are paved, largely with granite and asphalt), sewerage, water supply, etc. The trolley service extends to all the neighboring section of New Jersey. The parks are few and very small, less than in almost any other large American city; but along the ridge in the western part extends the magnificent Hudson County boulevard, 19 miles long (the entire length of that county from Bayonne up, and five miles of Bergen County), 100 feet wide, and with a noble view of the river and upper New York, as well as the country west. The city hall with the soldiers' monument, the public library, the courthouse, the Dickinson high school and the Fourth Regiment armory, are among the conspicuous buildings. The intellectual facilities of the city are good, aside from its proximity to New York. It has 37 public schools, besides 16 Roman Catholic parochial schools, and for higher education two public high schools, Hasbrouck Institute (1856), Saint Peter's (Roman Catholic) College (1878), Saint Aloysius Academy. There is a public library with over 100,000 volumes. The hospitals are the City, Saint Francis, German and Christ; there are several homes and asylums, and some convents.

The immense commercial and shipping interests of the city, though second only to those of New York, have no separate statistics, the customs report being included in that of the latter city. Its position on the great river, with Newark Bay in the rear and the entrance of Kill van Kull on the south, give it a most favorable commercial position, which has been improved by properly equipped wharves. There is a steady and concerted movement to increase still further these port facilities by co-ordination of railroads, piers and terminal yards and buildings, with a belt line railroad. The Pennsylvania and Erie roads have large grain elevators here. Among the leading industries are those of slaughtering and meat-packing: Jersey City is the meat depot of New York, and has several huge abattoirs on the river front on the Hackensack meadows in the northwest. Its slaughter-house products in 1910 amounted to $22,314,000. Its other manufactures are enormous, the total amounting to $128,775,000 in 1910. They are exceedingly varied, no one having a great predominance except slaughtering and meat packing and tobacco manufacture with over $11,065,000 a year; other important branches are iron and steel goods, locomotives, boilers and heating apparatus; bridges, ships and windmills; planing-mill products, cars, carriages, boxes and cooperage; brass, copper and zinc goods, electrical and scientific apparatus; pottery and glass; lead-pencils and famous crucibles used in all chemical laboratories and smelting works; watches, jewelry and musical instruments; sugar and confectionery; mineral waters and patent medicines; soap and candles (a natural annex to the abattoirs), and per-

fumes; compressed gas; chemicals, paints and roofing materials; paper and window-shades; rubber goods; silk thread and goods; oakum; fireworks; printing and writing inks and varnish; and hundreds of others. There are three national banks, and 10 State and private banks, with loan and trust companies. The city has an active and progressive Chamber of Commerce of the modern type.

Since June 1913 the city has had a commission form of government with five commissioners; most of the other officials are appointed by the commission except the school board which is appointed by the mayor. The assessed valuation in 1915 was $292,796,827; the total public debt, excluding the water debt, 30 Nov. 1915 was $10,350,625; the sinking fund is above $5,000,000. The expenditures are about $6,000,000 a year. The largest single item is $1,809,402.65 for schools.

The population in 1850 was 6,856; 1860, 29,226; 1870, 82,546; 1880, 120,722; 1890, 163,003; 1900, 206,433; 1910, 267,779. Of these 3,704 were colored, 58,224 foreign-born, 19,314 Irish, 18,820 German, 4,642 English, 3,832 Italian.

The site of the city was used only as farming land till into the 19th century despite its remarkable position. In 1802 the entire population was 13 in one house with outbuildings; this was on Paulus Hook, the point opposite the Battery, named after the Dutchman Michael Pauw, who formerly owned it. Here in the Revolution the American fortifications had been taken by the British, and retaken and destroyed in a most brilliant action by "Light Horse Harry" Lee. In 1804 the "Associates of the Jersey Company" bought the land, and laid it out in streets, incorporating it as a village with a board of selectmen. In 1820 it was incorporated as the "City of Jersey," still with a board of selectmen; in 1838 it was reincorporated as Jersey City, with a mayor and aldermen. Repeated annexations have brought it to its present territory: Van Vorst in 1851, Hudson City and Bergen in 1869, Greenville in 1873. It obtained a new charter in 1889. Consult McLean, 'History of Jersey City' (1895); Eaton, 'Jersey City and its Historic Sites' (1899).

JERSEY SHORE, Pa., borough in Lycoming County, on the Susquehanna River, 15 miles southwest of Williamsport, on the Pennsylvania and the New York Central and Hudson River railroads. It is situated in a fertile agricultural district and has machine shops, foundries, electric works, a silk mill and other industries. Pop. 5,381.

JERSEYVILLE, Ill., city and county-seat of Jersey County, on the Chicago and Alton and the Chicago, Peoria and Saint Louis railroads, 66 miles southwest of Springfield. It was settled in 1839, incorporated in 1867, and adopted a new city charter in 1897. It has a public library and courthouse, and being the centre of a rich agricultural district, has an established trade in produce, fruit, grain and live-stock and has manufactories of shoes. The waterworks are owned by the city. The government is vested in a mayor and council. Pop. 4,113.

JERUSALEM, Wilhelm, Austrian psychologist and educator: b. Drěnic, Bohemia, 11 Oct. 1854. He was educated at Prague, engaged in teaching, and in 1907 became lecturer in philosophy and pedagogy at the University of Vienna. His works offer many valuable contributions to the study of philosophy. Author of 'Zur Reform der philosophischen Propädeutik' (1885); 'Lehrbuch der empirischen Pyschologie' (1888; 5th ed., 1912); 'Die Urteilsfunktion' (1895); 'Einleitung in die Philosophie' (1899; 6th ed., 1913; eng. trans., 1910; trans, into Russian, Polish and Japanese); 'Gedanken und Denker' (1905; trans. of William James' 'Pragmatism'); 'Die Soziologie des Erkennens in der Zukunft' (1909).

JERUSALEM (Greek *Hierousalem;* Old Hebrew pronunciation, *Yurushalem.* Tel-el-Amarna tablets, *Uru-sa-lim* "city of peace"; Assyrian monuments, *Ur-sa-li-im-mu.* The Greek and Latin *Hierosolyma* is a corruption, from the erroneous supposition that the first syllable is Greek *hieros,* sacred. Hadrian renamed it *Ælia Capitolina,* and its official name was long *Ælia,* even Arabicized into *Iliya;* the Greeks called it *Kapitolias.* Arabic name, *Beit el-Makdis,* or simply *el-Mukaddas,* modern vernacular *el-Kuds,* "the sanctuary," or *el-Kuds esh-sherif*).

The "Holy City" is 33 miles from its port of Jaffa on the Mediterranean, 15 from the Dead Sea, 18 from the Jordan, 19 from David's first capital, Hebron, and 34 or 35 from the old kingdom of Samaria: the pregnant Hebrew history was transacted in the space of a county. It is 126 miles from Damascus. The position of the dome of the Church of the Holy Sepulchre is lat. 31° 46′ 45″ N., long. 35° 13′ 25″ E. The city lies in the midst of an infertile, ill-watered district, once (under good government) made prosperous by irrigation, later blighted by Turkish possession. The rainfall is about 23 inches. The climate is hot and irregular — rising to 112° and not sinking below 25°, with an annual mean of 62° — but not malarious; the city is insanitary and plague-stricken, but from dirt, lack of sewerage, bad water, and the unhygienic habits of the people. The only natural water-supply (the drainage sinking in the soft limestone) is from the Virgin's Spring (Gihon), an intermittent natural siphon on a dolomite floor, in a rocky cave 12 feet deep in the face of the eastern ridge; this was carried by a rock and masonry conduit to the rock and masonry Pool of Siloam, 52 x 18, and thence to another, the Old Pool; a shaft within the walls led down to a rock channel communicating with the spring. At present the water-supply is from rain-tanks or "pools," in and out of the walls. The remaining one of three old aqueducts, which carries water when in repair, was built by Pilate. There is little trade except that of local shops for supplying tourists; and the manufacture is chiefly of souvenirs, as olive-wood and mother-of-pearl articles. Indeed, as a commercial location it never possessed any merits, and its greatness was due to original religious and political status. It is connected with Jaffa (west), Bethlehem and Hebron (south), and Jericho (north) by carriage-roads; and in 1892 a narrow-gauge railroad to Jaffa, with a circuitous course of 54 miles, was opened by a French company.

Jerusalem was built on several hills. "This group of hills, now represented by a nearly level plateau, as the inner valleys have been filled up

with the accumulations of ages, forms an outlying spur of the mountains of Judea, and has a general direction of north and south. On the north side the ground is comparatively level; two valleys, on the west, south and east, encircle the site, and gradually getting deeper, unite near the Pool of Siloam, forming one valley which runs down to the Dead Sea.» The modern city, much less extensive than the old in its best estate, is a rough quadrangle surrounded by a very irregular wall, built in the 16th century by Solyman I, on the lines of the Crusaders' fortifications. It has nominally eight gates, two on each side; the Jaffa and Abd-ul-Hamid on the west (the latter very recent), the Zion and Dung on the south, the Golden (closed up) and Saint Stephen's on the east, and the Damascus and Herod's on the north. The city is unevenly divided, by the main street running from the Damascus gate south to near the Zion gate, and that running east from the Jaffa gate to the Haram-esh-sherif, into four «quarters» in which the great religious divisions are segregated: the Mohammedan, much the largest, on the northeast, adjoining the original holy places; the Christian next, on the northwest, where is the Church of the Holy Sepulchre; the Armenian on the southwest; the Jewish on the southeast. The streets are crooked, narrow, ill-made, and dirty, and the city has few except historical attractions; the stream of tourists, however, has developed civilized conveniences such as hotels, banks, mercantile establishments, etc. Several Jewish colonies have been settled in the environs; and since 1858 a quarter has grown up outside the walls on the northwest, approached by the Jaffa Gate, and containing consulates, Christian churches, schools, charitable institutions, etc., but not more sanitary than the old. The city prior to British occupation in 1917 was the capital of an independent sanjak, subject to the government at Constantinople. It has an executive and a town council with representation of the great religious divisions. It is the seat of Roman Catholic, Greek Catholic and Armenian patriarchs; the smaller eastern churches have resident bishops; and till 1887 a joint Protestant bishopric was supported by England and Prussia, with alternate bishops, but on the death of the then incumbent Prussia withdrew from the arrangement, and England continued it alone. Pop. in 1911 about 68,000, made up of 8,000 Mohammedans, 10,000 Christians and 50,000 Jews. In addition, there is a floating population of pilgrims to the sacred sites.

The intense historical interest is centred on memorials of the time or localities of David and Solomon, and of the life and death of Christ. Of the former, the supreme interest is in the Haram-esh-Sherif, the site of the temple, and palace of Solomon and of the later temples. It is a walled area about 527x330 yards, with an elevated platform in the centre reached by steps; in the centre is the beautiful Kubbet es-Sakhra, or Dome of the Rock — a wooden octagon with sides of 66 feet 7 inches, decorated on the outside with marble and porcelain tiles, each of the four sides which face the cardinal points having a square gate surmounted by a vaulted arch. Just east of this is the Chain Dome, or David's Place of Judgment. Other domes of interest are near; but the next most notable structure in the Haram is the mosque El Aksa, at the south end. Within it are also a beautiful 15th century fountain, a pulpit of the same date, a modern mosque called the Throne of Solomon, and the fortress of Antonia. Of the Christian monuments, the most noteworthy is the Church of the Holy Sepulchre, in the Christian quarter, originally built by Constantine the Great over the traditional site of the Crucifixion. (See HOLY SEPULCHRE). There is a rotunda, with a dome 65 feet in diameter, above a small Chapel of the Sepulchre; a number of church buildings, said to include the site of Golgotha or Calvary; and 22 chapels. The Via Dolorosa, along which Jesus is said to have carried the cross to Calvary, follows the present street Tarik Bab Sitti Maryam from Saint Stephen's Gate. Several modern churches and other institutions are also worth visiting; but the thronging Scriptural associations — besides those mentioned above, the Mount of Olives, the Pool of Bethesda, the Vale of Hinnom, etc.— overshadow all else.

Topography and History.— About a mile north of Jerusalem, the main north and south watershed ridge of Palestine turns to the west; while a spur called Olivet, having three pinnacles, runs first southeast one and one-half miles, and then south one and one-fourth miles. The space between the two is occupied by a plateau sloping southeastward, and separated on each side from the bounding ridges by a ravine 300 to 400 feet deep, with steep and often precipitous sides. The eastern ravine, separating it from Olivet, is the «brook» Kedron or Kidron (Cedron), which was always a dry bed; the western is the Wady el-Rabâbi (probably the vale of Hinnom), which after skirting it on the west, turns east along the southern scarp of the plateau and joins the Kedron. Through this plateau from north to south runs a broader and much less deep and precipitous valley, the Tyropœon («cheese-makers' place») 100 to 150 feet deep, thus dividing it into two uneven sections: the east ridge is continuous, and its northern part was the first occupied; the western part, the «new city,» is divided by a lateral branch of the Tyropœon into two summits, a north and a south, connected by a narrow saddle separating also Tyropœon from el-Rabâbi. The general height may be stated as about 2,500 feet; the eastern ridge is 2,440 feet at the north, and descends southward; the western north summit is 2,490 feet, south summit 2,520. The accumulation of the rubbish of 3,000 years, however, has greatly modified the contours of the hills and ravines, obliterating some minor ones altogether. The average depth over the rock levels is 30 to 40 feet, and in the valleys 70, in one case reaching 120.

This plateau, surrounded on three sides by steeply scarped bluffs and crested with hills, was a natural fortress; but it had two defects — it commanded nothing in particular, and its water-supply (one spring intermitting for hours or even a day or two, and that at the foot of a bluff) was very scanty. Probably at the first, as many times since, army after army marched around it, and left it untouched as of too little military significance. We first hear of it on the Tel el-Amarna tablets (about 1400 B.C.) when it is seemingly a little hill fort with a small gar-

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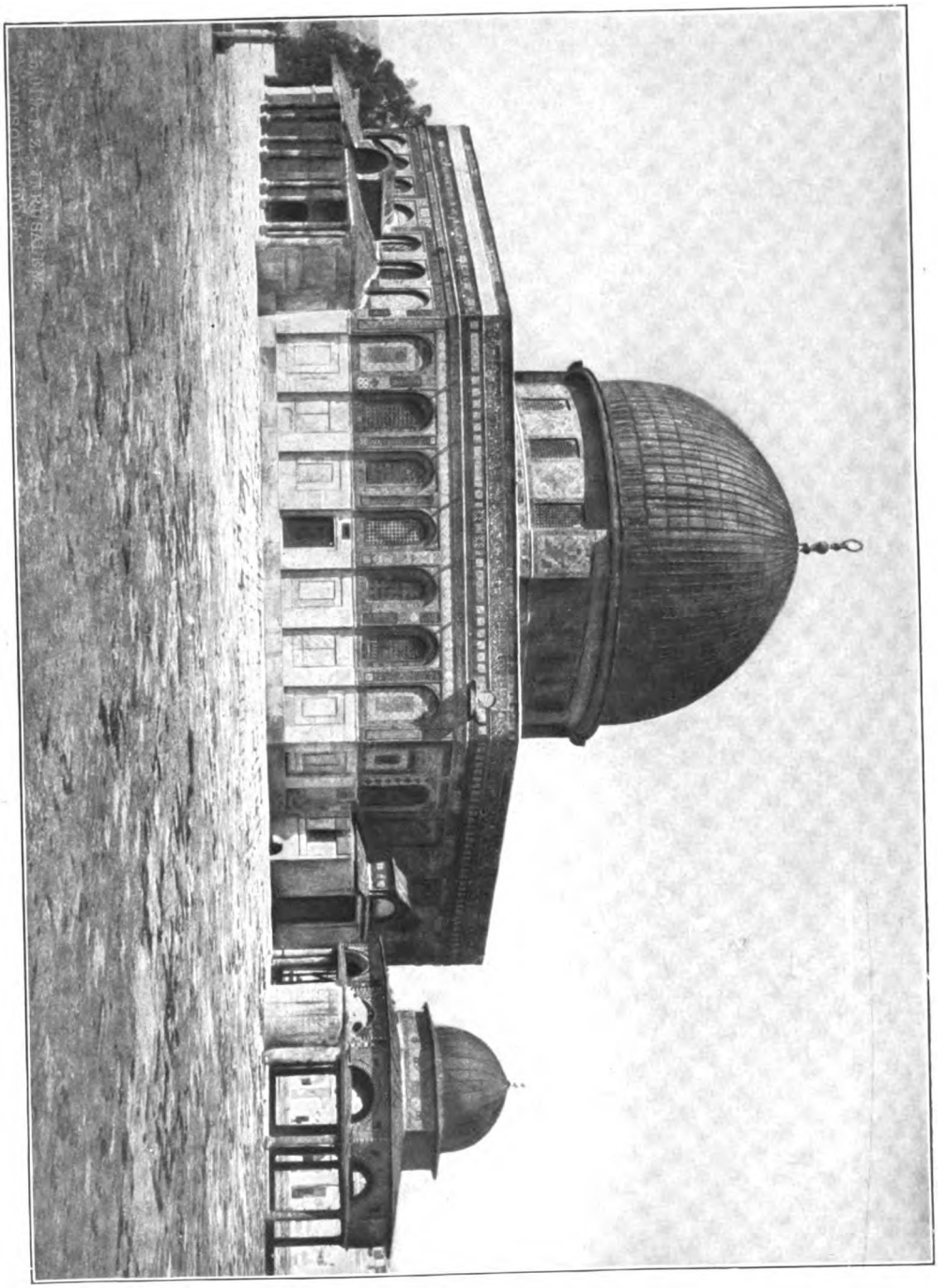
Site of Solomon's Temple, from the Northwest



The Mosque of Omar

rison, possibly with a village also, and the capital of the "land of Jerusalem," apparently a small territory along the watershed. The king, Abd-Khiba, is a vassal of the king of Egypt, and begging assistance against the Khabiri (Hebrews?). Later it is a minor "Jebusite" citadel: Hebron, Bethlehem, Bethel, Gibeah, Jericho, are all more important. But when David undertook to form a consolidated Hebrew kingdom, Jerusalem had the transcendent merit that it lay on the border between Judah and the northern tribes, not historically identified with either; it was also fairly on the central line of communication, and convenient for action against the Philistines and the desert tribes at once. He made terms with the Jebusites and occupied the hill-fort of Zion on Ophel, near the only available water-supply. Possibly a village grew up on the eastern slope of the hill; but it was small, for the whole levy of Palestine was but 30,000 men (2 Sam. vi, 1), and other places held the trade. Solomon greatly increased the size of the town, and built a stone temple for Yahweh and a great palace. Under Rehoboam the place was captured by Shishak of Egypt; under Amaziah by Jehoash, and its walls partly leveled. During the palmy times of the northern kingdom it was held of small account except by the Judahites: it was only one of many places of pilgrimage down to Hezekiah's time, and the northern prophets ignore it and speak of Bethel, Gilgal and Beersheba. With the fall of its northern neighbor, for the moment its importance and wealth increased; it became the one shrine which had never been defiled with the rites of the native religions, the centre of Jewish religious life, the one place where sacrifice might be offered In the later days of the monarchy the town spread beyond the east ridge into the Tyropœon; a second town and a trading quarter grew up. For a long time after its destruction by Nebuchadnezzar in 586 the history is scant and dubious. It suffered heavily under the Persian Empire; under Artaxerxes Ochus the temple *may* have been destroyed. Alexander's sacrificing in the temple is mythical; and in 320, Appian says, Ptolemy Soter destroyed the city. Then there was a time of peace and prosperity, culminating in the high-priesthood of Simon II (219–199 B.C.); after a series of struggles between the Ptolemies and the Seleucids, in which the former took and garrisoned the place and the Jews helped drive out the garrison, the Seleucids obtained Palestine by treaty in 197. When Antiochus Epiphanes undertook to Hellenize Palestine in 169, he took the city, destroyed the walls, plundered the temple, and erected an altar to Zeus in place of that to Yahweh. Judas Macabæus rebuilt the temple and the walls; again razed by the Greeks, they were again rebuilt by Jonathan. Under the Hasmonæan dynasty it extended to the western ridge; there was a new palace and royal quarter of great splendor; the city became the metropolis of the Jewish world, and the one great pilgrim shrine. Then it became tributary to Rome, but at least still a kingdom governed by its own sovereigns; such it was when Jesus was born; but it shortly after became a province governed by a Roman procurator. The Roman system of repression and Jewish national feeling were brought sharply into conflict, aside from any actual misgovernment; and a grand national revolt took place, which in 66 A.D. gained possession of Jerusalem. Vespasian was appointed to repress it; and in 70 A.D. his son Titus, after one of the most frightful sieges in history, with unimaginable horrors, took it, burned the temple, and leveled the city to the ground. Josephus says the city's population was 1,000,000, and Tacitus (probably from Josephus) 600,000. Both are absurd, those of Josephus are Oriental in their exaggeration. From 30,000 to a maximum 45,000 may be estimated. It remained a ruin for many years. In 131 Hadrian visited the site and ordered the rebuilding of the city, apprehending a restoration of pagan worship, the Jews broke out in rebellion under Bar-Cochba; and Hadrian, not caring to set up a new centre of Jewish propaganda, made it a Roman colony called Ælia Capitolina, and forbade Jews to enter it on pain of death. Thence till the time of Constantine nothing is known of it; except as a Jewish shrine it was nothing. When the empire became Christian, Constantine's mother, Helena, induced him to cherish the seat of Christ's ministry and death; and he built the Church of the Holy Sepulchre. Pilgrims flocked to Jerusalem from all parts, and it became the shrine of Christendom. Captured by Khosru of Persia in 614, it was retaken by Heraclius in 628; but in 637 was taken by the Moslems under the caliph Omar. The line of Arabian caliphs of different dynasties was succeeded by the Seljuk Turks. The Christians were oppressed, the sacred places defiled; to crown all, the overland caravan trade was cut off. Religious feeling and mercantile interest together roused Europe to the crusades, and Jerusalem was taken by Godfrey of Bouillon in 1099, becoming the capital of a Christian monarchy. This maintained a precarious existence till 1187, when Saladin recaptured the city and it remained in Mohammedan possession again for 730 years, up to Dec. 1917 when in the Palestinian campaign of the World War it surrendered after a short siege to British troops under General Sir E. H. Allenby.

Bibliography.— Among the many excellent works on the subject, consult, for topography and ancient history, the article Jerusalem in the "Encyclopædia Biblica," by W. R. and G. A. Smith and Colonel Conder; also for topography, Colonel Conder in Hastings' 'Dictionary of the Bible.' Consult also Warren and Conder's 'Jerusalem' (1884, Palestine Exploration Fund), containing a large portfolio of plates; Wilson's 'Ordnance Survey of Jerusalem' (1868), the basis of all modern work; De Vogue's 'Temple de Jérusalem' (1864); Le Strange's 'Palestine under the Moslems' (1890, Palestine Exploration Fund), the only book based on Arabic writers; Besant and Palmer's 'Jerusalem, the City of Herod and Saladin' (4th ed., 1899); Atkins, G. G., 'Jerusalem: Past and Present' (1918); G. A. Smith's 'Jerusalem from the Earliest Times to A.D. 70' (2 vols., 1908); also his 'Historical Geography' of Palestine; Watson, 'Jerusalem' in the Mediæval Towns Series; the 'Quarterly Statements' of the Palestine Exploration Fund and the proceeding of the German Palestinian Society.

JERUSALEM, Councils or Synods of, a number of councils held at Jerusalem after the meeting of the Apostles (Acts xv), of which

six are of prime importance. (1) The first ecclesiastical council, believed to have been held about 47 and mentioned in Acts xv, discussed the extent to which Judaic law should be followed in the Christian Church. The council gave three decisions: (a) abstention from meats which had been offered to idols; (b) from blood and strangled things; (c) from fornication. (2) In 335 an attempt was made to heal the differences in the church at the time of the meeting of the bishops to consecrate the church of the Holy Sepulchre, and Arius was restored to fellowship and permitted to return to Alexandria. (3) In 349 Maximus, bishop of Jerusalem, and 60 other bishops met upon the return of Athanasius to Alexandria, rescinded the decree published against him and dispatched a synodal letter to the church in Alexandria. (4) In 399, held in response to an appeal from Theophilus of Alexandria to sustain the decree against the Origenists; the decree was confirmed and the resolution to hold no communion with those who denied the equality of the Father and the Son was passed. (5) In 553 the acts of the fifth Ecumenical Council of Constantinople were received by all the bishops of Palestine except Alexander of Abilene, who, being absent, was deposed. (6) In 1672 the most notable council was held, convened by Dositheus, patriarch of Jerusalem, with the object of eradicating Calvinism. It was attended by 53 prelates, six metropolitans and other officers and members of the church. It rejected unconditional predestination and justification by faith alone, and advocated the Roman Catholic doctrines of transubstantiation and of purgatory. Its decisions were the cause of considerable trouble in the Eastern church, charges of leanings toward Romanism being made, although the council had specifically pronounced against the Roman Catholic affirmation that the Holy Ghost proceeds from both Father and Son. The pronouncements of this council are regarded on the whole as one of the most important expressions of f ith of the Eastern church.

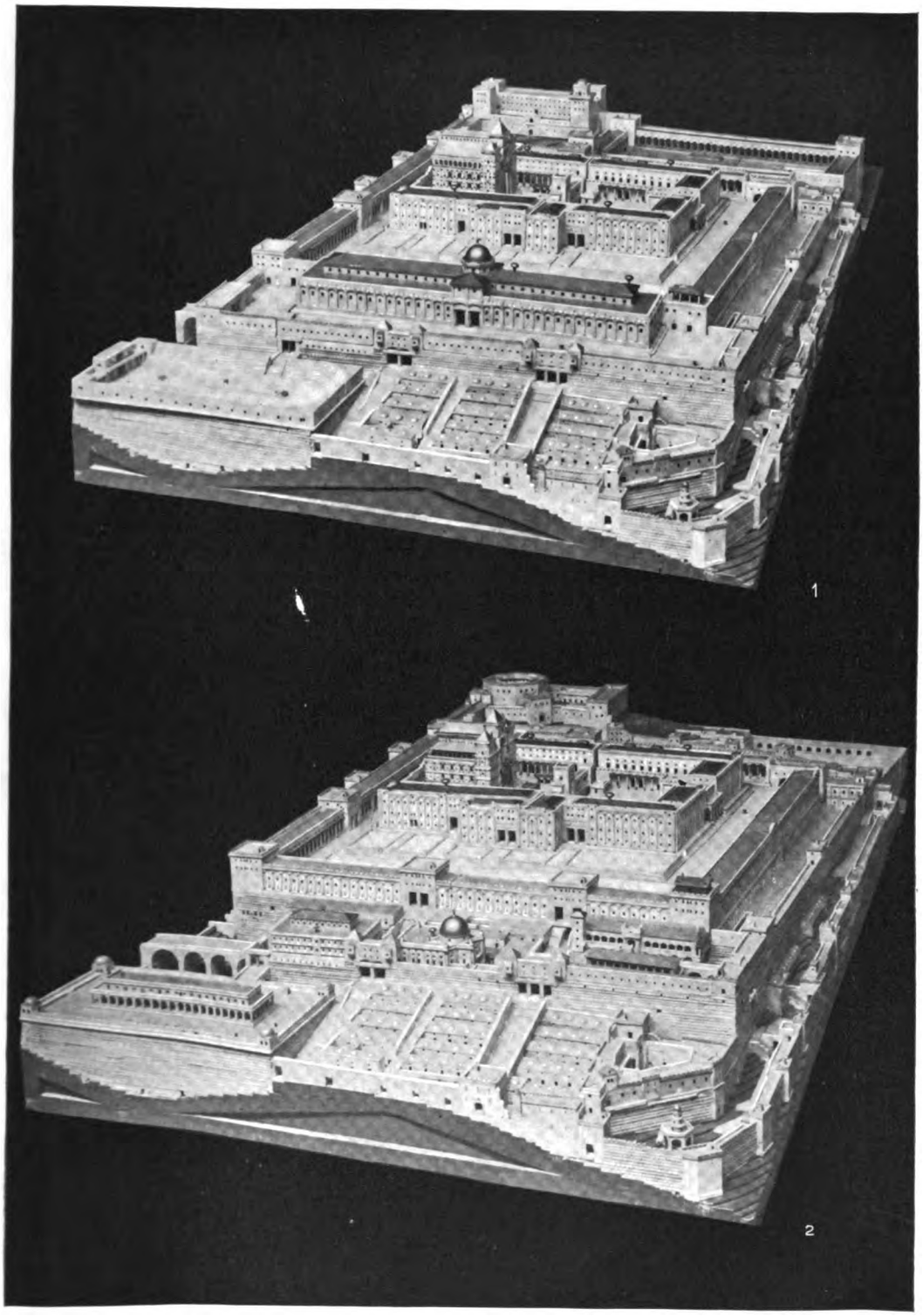
JERUSALEM CHAMBER, a large hall in the deanery of Westminster, noted for its historical associations. It was built for Abbot Littlington, 1376–86. Henry IV died in it, 20 March 1413. It was the meeting place of the Westminster Assembly in 1643, also of the company of revisers of the New Testament of 1881. The Old Testament Company also met there part of the time. Before they were buried in Westminster Abbey, Addison (1719) and Congreve (1728) lay in state in the hall. The name of the hall was probably given because of the tapestries on the walls depicting scenes from Jerusalem.

JERUSALEM CHERRY, an ornamental house plant of the nightshade family, *solanum capsicastrum* and *solanum pseudo-capsicum,* of which the latter species is a native of Madeira. The plant attains a height of from one to three feet with oblanceolate leaves borne on short stems and small white flowers followed by bright red or yellow berries the size and appearance of cherries. It is readily propagated by either seed or cuttings. It is sometimes called "winter cherry," and its fruit is inedible.

JERUSALEM CREED, the confession of faith generally believed to have been taught by Saint Cyril of Jerusalem in his catechetical lectures about 347 A.D., based upon the Nicene creed of 325 A.D. and amplified by Cyril upon his return from exile in 362 A.D. It reads: "I believe in one God, the Father Almighty, maker of heaven and earth, and of all things visible and invisible; and in one Lord Jesus Christ, the only begotten Son of God, begotten by the Father before all worlds, very God, by whom all things were made, who was incarnate and made man, crucified and buried, and the third day ascended into the heavens, and sat down at the right hand of the Father; and is coming to judge quick and dead. And in the Holy Ghost, the paraclete, who spake by the prophets; and in one baptism for the remission of sins; and in one holy catholic church; and resurrection of the flesh; and in life everlasting." It forms the basis of the creed adopted by the council of Constantinople, 381 A.D. Consult Schaff, Dr. P., 'The Creeds of Christendom' (3 vols., 1877); 'The Library of the Fathers' (Vol. II, Oxford translation, 1832); Riddle, 'Christian Antiquities'; Curtis, 'Creeds and Confessions' (1911).

JERUSALEM DELIVERED. In dealing with the 'Jerusalem Delivered' (1581), critics have the advantage of knowing from Tasso's dialogues and from his later version of the poem ('Jerusalem Regained,' 1593), the considerations which determined for the author its content and its form. In his critical theory "plot" and "ornament" are basic and distinct categories; while prominent before his mind were the successful examples of Ariosto, Boiardo and Pulci. These chivalric romances were loose agglomerations of episodes related but tenuously to a central theme. Tasso consciously strove to build a poem of the same kind that would conform however, as regards the category of plot, to the canons of Aristotle's 'Poetics' as modified by himself. It would have a unified theme to constitute a major interest. To this the episodic would be subject in the category of ornament. As an Italian of his time, Tasso conceived of religion, rather than patriotism as the subject of most lasting interest (the traditional motive of the ancient epic). But the imaginative tale, whether patriotic or religious, must, to convey its message to the reader, carry the conviction of historical narrative (doctrine of *verisimilitude*). Actual history does not leave room for the distinctive act of the poet: invention. He must select accordingly a subject which, recognized as history, will be but so vaguely known in detail that the fictitious will be accepted as true. The Turkish menace was the terror of Tasso's time; and one of the poetic commonplaces was to incite Christian Europe to a new Crusade. The subject of the holy wars thus imposed itself upon him for reasons of piety, present interest, and theoretical suitability. He chose the conquest of Jerusalem by Geoffrey of Bouillon (First Crusade, A.D. 1096–99); its epic motive was to be the triumph of the just man through God over the wiles of sin and the obstacles set by evil fortune.

The operation of Tasso's pious purpose and of his critical theory can be traced through the 'Jerusalem Delivered' in the parts that are worthless. The theme that gives his much sought logical unity is mechanical and unimaginative. His just man, Geoffrey, is a lifeless



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1 Herod's Temple

2 Solomon's Temple

The famous Scheck Models

abstraction, his Divinity a dull magician working in roundabout ways to produce miracles not worth the trouble. The preoccupation of the moral purpose contributes some allegory that is shallow if geometrically logical. The episodes gain nothing from their dependence on the plot; while the theory of ornament as applied to style carries metaphor-making to extremes that have interest only historically as setting a fashion henceforth current in the most decadent period of Italian letters. So far as the 'Jerusalem Delivered' is a regular epic, it is dead. It lives only as a fantastic romance that gave free play to Tasso's supreme genius in the moods associated with the elegy and the idyll.

As the religious spirit overrides Tasso's biography so it overrides the strong passions of his soul. He felt intensely the beauty of life; he was deeply attached to the exterior world; he knew the inspirations of love, the allurements of sensuous pleasure. He never surmounted entirely the thought of death; rather he knows to the full what delusion means, the anguish of separation from loved objects and people, solitude, helplessness, despair. So he knows also the value of the Christian promise; and paying submissive tribute to the anthropomorphic aspects of dogma, he rises through faith to a vivid realization of true Christian experience. These are the elements of the lyric exaltation that has made some of his episodes immortal. In Sophronia he incarnates a mood of religious rapture indifferent to death and to worldly love, so completely does the martyr feel herself safe with God; whereas her lover, Olindo, snatches at the last consolations of life, rebelling in despair at the thought of what death makes forever impossible. Death and love are once more set in contrast in the death and conversion of Clorinda. Here is a violent sob of farewell accentuated by the bitterness of avoidable error — the great motive that romanticism has always played on to rouse extreme effects of pathos. But love struggles over the grave to console with the softening and sweetening hope in the Resurrection. Clorinda's mute benediction on Tancred is one of the most moving touches in all poetry. Erminia's flight to the Christian camp over a moonlit solitude is a complex experience of humility, surrender, devotion, expressing in words filled with beautiful Vergilian echoes, a suffocated lament for unrealizable yearnings. In the story of 'Armida' the idyllic sweetness, the sensuous suppressions of the 'Aminta' return, to suggest behind a graceful veil of modesty the fascination of sex allurement.

Tasso's orthodoxy in religion and in critical theory, his development of ingenuity in metaphor, his impeccable Petrarchism, his urbane preciosity, his skill in classic allusion, his elegant fancy, conquered the aristocratic circles of the next two centuries in Europe, when everyone ranked him as superior to Petrarch and Dante — this, in spite of a fatuous pedantic quarrel over the theory of the epic, which embittered the poet's later years and lasted for several decades after his death. The Romantic movement of the 19th century, rejecting most of the critical tradition from which Tasso drew, justly relegated him to a more modest position in the literary hierarchy of Italy. In virtue of his story-telling gift, the common people of all regions of that country have accorded to the 'Jerusalem Delivered' a popularity, as a code-book of rustic chivalry, second only to the legends of Roland and Charlemagne still so current in the South. The poem endures in literature as the best expression of the ideals and mental traits of the Italian Counter-Reform and as the greatest product of the preceptual æsthetics of the Renaissance. Tasso's only equals among Italians in religious literature are Dante and Fogazzaro.

ARTHUR LIVINGSTON.

JERUSALEM OAK. See GOOSEFOOT.

JERUSALEM PLANK ROAD, Engagement near. After the battle of Cold Harbor (q.v.), 1–3 June 1864, General Grant crossed to the south of James River, made unsuccessful assaults upon the Petersburg intrenchments, 15–18 June, and then determined to invest the city partially by a line of works toward the South Side Railroad, and by the evening of the 21st the Fifth corps rested its left on the Jerusalem Plank Road. The Second corps, followed by the Sixth, was moved across the road with the intention of seizing the Weldon Railroad at a point near Globe Tavern next day, and with the expectation of seizing also the South Side Railroad, and cutting Lee's communication with Lynchburg. At night the Sixth corps was in rear of the left of the Second. The orders for the 22d were that the Fifth corps should hold fast its position in front of the Confederate intrenchments, while the Second and Sixth swung to the right, and forward on its left, each division intrenching as it came into line. In the movement the corps commanders at first were directed to keep up connection, then they were ordered to move without regard to each other, each taking care of his own flanks. The Second and Sixth corps moved chiefly through densely wooded thickets; the Second on the right and near the Confederate works; the Sixth at right angles to the Second toward the Weldon Railroad. Gibbon's division of the Second corps had swung in on the left of the Fifth and intrenched, Mott's division was intrenching, and Barlow's division, on the left, was not yet in position, when the last named was attacked. Gen. A. P. Hill had been sent down the Weldon Railroad to oppose Meade's attempt upon it. He had the three divisions of Wilcox, Mahone and Bushrod Johnson. Leaving Wilcox to oppose the Sixth corps, which had not come up on the left of the Second, Hill, about 3 P.M., passed Mahone and Johnson through the opening between the two corps and struck Barlow in flank and rear, driving him back in confusion to the position from which he had advanced in the morning, and taking many prisoners. Mott's division, on Barlow's right, fell back precipitately, and then Hill struck Gibbon's left brigade in front, flank and rear, causing it to give way and abandon a battery of four guns. So sudden and unexpected was this attack upon Gibbon that the greater part of several regiments were captured with their colors. Gibbon made an unsuccessful effort to recover the lost portion of his line. Hill returned to his intrenchments, leaving some force on the railroad, and toward evening the Second corps was thrown forward; but it was

not until next morning that it occupied the ground from which it had been driven, the Sixth corps, forming on its left, thrown back facing the Weldon Railroad, and about a mile from it. The Union loss on the 22d, confined almost entirely to the Second corps, was nearly 2,000, of whom about 1,700 were prisoners. The Confederate loss is unknown. Consult 'War of Rebellion—Official Records' (Vol. XL, Washington 1889–1901); Humphreys, A. A., 'The Virginia Campaign of 1864–65' (New York 1883); Walker, F. A., 'History of the Second Army Corps' (New York 1886).

JERVIS, jĕr'vĭs or jär'vĭs, **John,** EARL OF ST. VINCENT, British admiral; b. Meadford, Staffordshire, 9 Jan. 1735; d. 14 March 1823. He entered the navy 4 Jan. 1749, was promoted lieutenant 19 Feb. 1755, took part in the capture of Quebec, and in 1759 was appointed to the command of the sloop *Scorpion*. He became post-captain in 1760, and in 1769–72 he commanded the *Alarm*, stationed in Mediterranean waters. He was then put on half-pay and traveled extensively in Europe and European waters, making many valuable notes on naval affairs. During the American Revolution he commanded the 80-gun *Foudroyant*, participated in the battle of Ushant on 27 July 1778, in the relief of Gibraltar, and on 19 April 1782 he captured the French man-of-war *Pégase*, for which achievement he was made K.B. He was sent to Parliament for Launceston in 1783 and for Yarmouth in 1784. He became vice-admiral in 1793 and until 1795 commanded the naval operations against the French in the West Indies. He was appointed to the command of the Mediterranean fleet in 1795, receiving rank as admiral, and successfully maintained the blockade of Toulon. Upon the alliance of Spain and France and the occupation of Italy by the French he was obliged to withdraw his fleet to the Atlantic, and on 14 Feb. 1797 he engaged the Spanish fleet off Saint Vincent at heavy odds and completely routed it. For this victory he was granted his earldom and a pension of £3,000. In 1797, during the general mutinies at Spithead and Nore, his prompt measures and the high state of discipline in which he maintained his command were successful in keeping his ships free from the trouble. He was often bitterly criticized as a disciplinarian, his firmness extending to his officers' conduct as well as that of the sailors; but Lord Nelson, whose methods were wholly different, acknowledged the efficiency of Lord St. Vincent's measures and the necessity for them at the time. Nelson's victory at the battle of the Nile was largely due to the high discipline which St. Vincent had inaugurated. He resigned his command because of ill health in 1799 and upon return to duty in 1800 he took command of the Channel fleet, where he instituted his usual disciplinary methods to the great indignation of his officers and crews, but with salutary results so far as the efficiency of the fleet was concerned, as he was able to maintain the blockade of Brest for 121 days. He was First Lord of the Admiralty in 1801–03 and was fearlessly dictatorial in the institution of reforms at the dockyards, but was opposed by Pitt on the grounds that he failed to see the necessity of preparing the fleet for war. He refused the command of the Channel fleet under Pitt's ministry in 1803, assumed it after Pitt's death in 1806, but asked to be relieved in 1807. The rank of admiral of the fleet was conferred upon him by George IV at the time of his coronation. Lord St. Vincent ranks high among the commanders of his time, through whom the supremacy of British naval power was established. The biographies by Tucker (2 vols., 1844) and Brenton (1838) are not considered authoritative in the best sense. Consult Laughton, 'From Howard to Nelson' (1899); Mahan, A. T., 'Types of Naval Heroes' (1901); Anson, 'Life of John Jervis, Admiral Lord St. Vincent' (1913).

JERVOIS, jĕr'vĭs, SIR **William Francis Drummond,** British general and engineer: b. Cowes, Isle of Wight, 10 Sept. 1821; d. Bitterne, Hampshire, 16 Aug. 1897. He was educated at the Royal Military Academy at Woolwich and was commissioned second lieutenant in the Royal Engineers 19 March 1839. He was ordered to the Cape of Good Hope in 1841, where he remained on engineering duty and in active service against the Boers and Kaffirs until 1848. Returning to England he continued in the engineering service. He was appointed assistant inspector-general of fortifications at the War Office 7 April 1856, and in 1857 became in addition secretary to the defense committee. He prepared the plans for the defense of London in case of invasion during the period when war with France was threatened in 1857, and in 1859 drafted a report and recommendations for defenses calling for an appropriation of £7,000,000, which was granted by Parliament. He was appointed director of works for fortifications in 1862, and in 1863 made an official tour of inspection of the fortifications of Canada and Bermuda, also visiting those of eastern United States. He afterward inspected the progress of fortifications in all parts of the British Empire, and upon the completion of the work in 1874 it was found that he had carried out the plans submitted to Parliament and kept within the £7,460,000 appropriation by a margin of £40,000. He was governor of the Straits Settlements in 1875–77, of South Australia in 1877–82, retiring from military service with the rank of lieutenant-general 7 April 1882. He served as governor of New Zealand in 1882–89, when he returned to England with an enviable record for both ability and popularity. He served on the consultative committee on coast defense duties under Edward Stanhope in 1890. He was a member of the Royal Society, a knight commander of the Orders of Saint George and Saint Michael, and author of numerous valuable reports on problems of defense.

JESHURUN is a tender and affectionate poetical term applied to the people of Israel occurring four times in the Old Testament. It is variously interpreted. Kimchi says "Israel is so called as being just among the nations." Gesenius translates it as "a righteous little people."

JESI, yā'zē, or **IESI** (anc. Æsis), Italy, city and episcopal see of the Marches in the province of Ancona, on the River Esino, 17 miles by rail southwest of Ancona. Its walls date from mediæval times and are well-preserved. The cathedral of Saint Septimius was built in 308, and the Palazzo del Commune in 1487–1503. There is a library containing paintings by Lorenzo Lotto, and a castle built by

Baccio Pontelli in 1488. The town takes its name from the river, which from 250 B.C. to about 82 B.C. formed the boundary of Italy. The ancient town Æsis was a colony used by the Romans as a recruiting ground. It was the birthplace of Emperor Frederick II, as well as of the composer Giovanni Battista Pergolesi. Pop. commune, 24,777.

JESPERSEN, yĕs'pĕr-sĕn, **Jens Otto Harry,** Danish philologist: b. Randers, 1860. He was educated at the University of Copenhagen where he became professor of English in 1893. He was associate editor of *Dania* in 1890–1903, and in 1906 he received the Volney prize of the French Institute. He lectured at Saint Louis in 1904 and at Columbia University and the University of California in 1909–10. His literary works deal chiefly with phonetics. Author of 'The Articulation of Speech Sounds' (1889); 'Chausers Liv og Digtning' (1893); 'Fonetik Læren om Sproglyd' (1897–99); 'Sprogundervisning' (1901; Eng. trans., 1904); 'Growth and Structure of the English Language' (1905); 'Modern English Grammar' (1909); 'Lehrbuch der Phonetik' (1913); 'Större engelsk grammatik på historisk grundlag (1909–14); 'Engelske Laessestykker' (1914), etc.

JESSAMY BRIDE, The, name given in compliment by Goldsmith to Mary Horneck, a relative of Reynolds and a member of a family with whom the author was on terms of intimacy. Miss Horneck was thought to be the object of affection on the part of Goldsmith. She became Mrs. Gwynn and afterward gave to Prior her recollections of the author. «Jessamy» is a poetic name for jasmine.

JESSE, jĕs'sĕ, in the Bible stands at the head of the house of David, who was his son. While Saul was persecuting David he took refuge in the land of the Moabites, where Ruth the Moabitess, his grandmother, had lived. In the genealogy of Jesus Christ as given in the Gospels of Matthew and Luke he is mentioned as one of the ancestors, as Christ in the New Testament is hailed «Son of David.» This fact has suggested some of the most interesting creations of mediæval art, and what is called a «Jesse window» is a stained glass church window in which Jesse is depicted as the root of a tree which bears as its fruit David and other heroes and saints of the Old Testament, with the infant Jesus in the arms of his mother on the highest branch.

JESSE, Edward, English author and naturalist: b. Hutton Cranswick, Yorkshire, 14 Jan. 1780; d. Brighton, 28 March 1868. He was secretary to Lord Dartmouth and was appointed successively to a clerkship in the woods and forestry office and deputy surveyor of the royal parks and palaces. His love for natural history was fostered by his residence in Richmond Park, and later in Bushey Park, and at Hampton, where he was connected with the restoration of the Hampton Court Palace. While not possessed of scientific training Jesse's powers of observation and facility in expressing himself gave a considerable popularity to his writings. Author of 'Gleanings in Natural History' (1832–35); 'An Angler's Rambles' (1836); 'Anecdotes of Dogs' (1846); 'Lectures on Natural History' (1863). He edited Izaak Walton's 'Compleat Angler'; Gilbert White's 'Selborne'; and L. Ritchie's 'Windsor Castle.' He also wrote handbooks to Windsor, Hampton Court and other places of note.

JESSE, John Henaage, English historian, son of Edward Jesse (q.v.): b. 1815; d. London, 7 July 1874. He was educated at Eton and afterward became a clerk in the admiralty, where he served for many years. He early developed a taste for literature and while his initial attempts at verse and drama were of little moment his later work possesses considerable value as presenting the times of which he wrote from the social and anecdotal side of history. Author of 'Memoirs of the Court of England During the Reign of the Stuarts' (1840); 'George Selwyn and His Contemporaries' (1843; new ed., 1882); 'Memoirs of the Pretenders and their Adherents' (1845); 'Literary and Historical Memoirs of London' (1847); 'London and Its Celebrities' (1850); 'Memoirs of the Life and Reign of King George the Third' (1867); 'Memoirs of Celebrated Etonians' (1875), etc. A collected edition of his works was published (30 vols., London 1901).

JESSE, Richard Henry, American educator: b. Epping Forest, Lancaster County, Va., 1 March 1853. He was graduated from the University of Virginia in 1875. He studied at Leipzig in 1885. Inspected German schools in 1890. Studied at Munich, spring and summer semester, 1905; at Berlin, fall and winter semester, 1905–06; was dean of the academic department of the University of Louisiana from 1878 till its union with Tulane University in 1884, in which institution he was professor of Latin till 1891. From July 1891 to July 1908 he was president of the University of Missouri. From ill-health he resigned as university president and entered by invitation upon The Carnegie Foundation. He has served as president of the Missouri State Teachers' Association, the Southern Association of Colleges and Secondary Schools, the National Association of State Universities and the Baptist Congress. In 1904 he was awarded a commemorative diploma and medal at the Saint Louis Exposition for his services to education. He is author of 'Missouri Literature' (1901), with E. A. Allen, and of papers in the transactions of various societies.

JESSEL, jĕs'ĕl, **Sir George,** English judge: b. London, 13 Feb. 1824; d. there, 21 March 1883. He was of Jewish parentage and was educated at University College, London, where he became a fellow in 1846. He was called to the bar at Lincoln's Inn in 1847, was called within the bar and became a bencher in 1865, and in 1868 he was elected to Parliament for Dover. He attracted Gladstone's favorable notice in 1869 by two sound speeches on the Bankruptcy Bill, and in 1871 he was appointed Solicitor-General. He succeeded Lord Romilly as Master of the Rolls in 1873, was sworn a privy councillor and resigned his seat in Parliament. The Judicature Act of 1881 made him president of the First Court of Appeal where he served the remainder of his life. He was notable as a judge for his wide learning, his quick, accurate judgments and the rapidity and thoroughness with which he cleared his calendar. He was the first Jew to take a share in the

executive government of England, to become a regular member of the Privy Council and to take a seat on the judicial bench of Great Britain. He was vice-chancellor of the University of London from 1880, a trustee of the British Museum and a fellow of the Royal Society.

JESSOPP, Augustus, Anglican clergyman and author: b. 20 Dec. 1824; d. 12 Feb. 1914. He was educated at Cambridge and after taking orders in the Anglican Church was curate of Papworth Saint Agnes, Cambridgeshire, 1848–54; head master of Helston Grammar School, Cornwall, 1854–59; was headmaster of King Edward VI's School, Norwich, 1859–79 and from 1879 rector of Scarning, Norfolk. He was an authority on archæological subjects, wrote largely on past and present village life in England; and contributed many articles to the 'Dictionary of National Biography.' His works include 'Arcady for Better for Worse' (1881), studies of agricultural life in Norfolk; 'Studies by a Recluse'; 'Trials of a Country Parson'; 'The Coming of the Friars,' etc.

JESSUP, Henry Harris, American Presbyterian missionary and author: b. Montrose, Pa., 19 April 1832; d. 28 April 1910. He was graduated at Yale in 1851, at the Union Theological Seminary in 1855, and was ordained in that year. He served as a missionary in Tripoli and Syria in 1856–60, and from 1860 until his death was at Beirut. He was missionary editor of the Arabic journal *El-Neshrah,* and was professor of theology and homilitics in the Syrian theological Seminary at Beirut. He was moderator of the General Assembly at Saratoga in 1879. Author of 'The Women of the Arabs' (1874); 'Mohammedan Missionary Problem' (1879); 'The Greek Church and Protestant Missions' (1885); 'Autobiography and History of the Syria Mission' (1909); 'Fifty-three Years in Syria' (1910); etc.

JESTER, a professional «fool» or humorist, an entertainer such as were formerly employed by European monarchs and wealthy nobles. Originally the jester was a court minstrel whose duty it was to tell and sing of *gestes,* heroic deeds (Lat. *gesta*), but with the decline of minstrelsy the word *geste* changed in meaning and the *gestour* developed into a domestic buffoon (Fr. bouffon), a retailer of witty stories. They usually wore a motley dress and a cap surmounted with bells and asses' ears or a cock's comb, hence the modern word «coxcomb,» a showy fool or vain pretentious person. The emblem of the jester was the fool's bauble or *marotte.* Consult Chambers, E. K., 'The Mediæval Stage' (London 1903); Doran, J., 'History of Court Fools' (London 1858); Douce, F., 'Clowns and Fools in Shakespeare,' in *Illustrations of Shakespeare* (London 1839).

JESU DULCIS MEMORIA ('Jesu! the very thought of thee'), the first line of a poem dating from the 12th century. In the earliest manuscript it consists of 42 stanzas of four lines each with a single rhythmic scheme for each stanza. Twelve stanzas of this poem have been taken to form three hymns of the Office of the Holy Name in the Roman Breviary, namely, 'Jesu dulcis memoria' (Vespers), 'Jesu rex admirabilis' (Matins) and 'Jesu decus angelicum' (Lauds). The 'Dictionary of Hymnology' (1892) states that «this hymn has been (and there seems little reason to doubt, correctly) ascribed to Saint Bernard and there are many parallels to it in his prose works, especially that on the Canticles. It has been variously dated 1130, 1140 or 1153, but as positive proof is lacking that it is unquestionably the work of Saint Bernard, it is manifestly impossible to fix a date for its composition.» Although Dom Guéranger contends that there are «incontestable manuscripts» to prove that the three hymns of the Holy Name were written by a Benedictine abbess of the 14th century, he does not give the date and location of these manuscripts, and the existence of the 12th century manuscript seems to preclude that possibility. Hymnologists of the present day, including Schaff, Trench, March and Duffield, seem to be unanimous in following the tradition of Saint Bernard's authorship. Mearns in the second edition of the 'Dictionary of Hymnology' (London 1907) retains this opinion as correct. The 'Jesu dulcis memoria' has been translated into English many times, notably by Bagshawe, by Donahoe and by Caswall, the latter's being perhaps the best known of the English translations. A fine translation, preserving the metre and rhymic scheme of the original, was published by Hugh T. Henry in the *American Ecclesiastical Review* (January 1900).

HERBERT F. WRIGHT.

JESUIT ESTATES ACT. See CANADA — JESUIT ESTATES ACT.

JESUIT RELATIONS AND ALLIED DOCUMENTS, The, a series of 72 volumes on the travels and explorations of the Jesuit missionaries in New France (1610–1791). The original French, Latin and Italian texts, with English translations and notes; illustrated by portraits, maps and facsimiles, have been edited by Reuben Gold Thwaites. The very great value of the work is that of original materials of the most interesting character for the history of North America from 1611, the date of the first landing of Jesuit missionaries on the shores of Nova Scotia. The reproduction of documents takes them in chronological order. The execution of the work by translators, editors and printers (at Cleveland, Ohio) is in every way admirable; and its completion makes a monumental addition to American historical libraries.

JESUITS, a religious order of the Catholic Church whose members, like those of similar societies, solemnly bind themselves to aspire to perfection by leading a life of chastity, by renouncing the possession of all personal property, and by obedience to lawful superiors in all that does not contravene the law of God. A certain number of them add a special vow of obedience to the Pope. They are called the Society or Company of Jesus, the latter designation expressing more correctly the military idea of the founder, which was to establish, as it were, a new battalion in the spiritual army of the Catholic Church. There are no female Jesuits, nor are there crypto or secret Jesuits. Romances are mostly responsible for such myths. Nor does the society form, as is sometimes fancied, a sort of sect within the Church. R. W. Thompson, ex-Secretary of the United States navy, in his 'Footprints of the Jesuits,'

asserts that they are such, and independent of the Pope, and in one instance he accuses them of being idolaters. As a matter of fact the Society of Jesus has always inculcated ardent devotion to the Pope, the most uncompromising orthodoxy and an intense Catholic spirit. The descriptions of Jesuits as crafty, unscrupulous men constantly engaged in dark plots against all who stand in their way, are inventions of their enemies and have no foundation in fact. Finally they are not monks, as they are sometimes described. Technically they are classed among churchmen as clerics, living according to a rule and are properly regular clerics.

The special object of the society beside the personal sanctification of its members is to propagate the Christian faith chiefly by teaching and preaching. Their teaching is restricted mainly to the higher studies, and includes literature, mathematics, science, philosophy, theology and the cognate branches. Their preaching addresses itself to all classes, but, by predilection, and at stated periods in a Jesuit's life, by express injunction, it concerns itself with catechizing the ignorant and instructing the inmates of hospitals and penal institutions, while it addresses itself also to more cultured and spiritual audiences. One special and characteristic feature of its ministry is known as the "Spiritual Exercises" or "Retreats" which it may be regarded as having introduced, or revived in the modern church, and are now a universal ascetic practice with the clergy and religious communities as well as with a considerable number of the laity. A "Retreat" is a withdrawal from worldly occupations for a more or less protracted period in order to scrutinize the state of the soul and to take means to amend one's life, or to strive for higher Christian perfection. The method of these "Exercises" is laid down in a small manual written by the founder of the society. The book itself, which is at first sight fragmentary, and only suggestive in its character, is not easily understood or explained except by those who are trained to interpret it.

The society was founded by Ignatius Loyola, a Spanish nobleman, who after being disabled in fighting for his country, betook himself to the solitude of a cave near the little town of Manresa, Spain, where he passed some months in prayer and severe bodily austerities. Later, desirous of working more effectively for the salvation of his fellow men, he determined to become a priest, and for that purpose studied in the universities of Alcala and Salamanca, and finally in Paris, where he gathered about him six companions, among whom were Francis Xavier, the future Apostle of Japan, Peter Faber, whom, with Ignatius and Xavier, the Church was to honor subsequently as a saint, and also Salmeron and Laynez, who were conspicuous luminaries at the Council of Trent which was then about to be convened against the doctrines of Luther, Calvin and others who had just then arisen.

On 15 Aug. 1534 these seven men organized themsleves into a society and pronounced their vows in the crypt of a little chapel in what is now Rue Antoinette, a short distance below the crest of the hill of Montmartre in Paris. It was only six years afterward that Pope Paul III gave them and the others who had joined them meantime his solemn approval.

The peculiarities of their organization were the occasion of much antagonism at the very outset on the part of some of the most eminent men of the Catholic Church. The Inquisition strongly suspected its purposes and doctrines. The name of the "Society of Jesus" was objectionable to Pope Sixtus V. Unlike other orders they were to be dispensed from reciting the divine office in common, and were to wear no distinctive habit. The length of probation and the general structure of the society were unusual. The members were first the professed who were relatively few. In them the governing power resided, and they were distinguished by a special vow of obedience to the Pope. Then came the spiritual coadjutors, or priests, who did not take the special vow of obedience to the Pope. Preparing for either category were the students or scholastics, and lastly there were lay brothers who were to devote themselves to domestic duties. Those who applied for admission were to pass two years of noviceship, and not one as in other religious orders, and were then admitted to what are called simple vows which could be easily dispensed with by proper authority if the subject were subsequently found unfit. Following the noviceship, two years were given to a review of the classical studies; then came three years of philosophy, mathematics and the physical sciences; five years of college teaching and four years of theology, to end only with another year of seclusion and prayer, after which the candidate was permitted to take the solemn vows which bound him irrevocably to the order as a spiritual coadjutor or professed. The probation of the lay brothers was protracted to 10 years. The Jesuit renounces by vow all ecclesiastical dignities, and accepts them only in unusual circumstances and by express command of the Pope, under pain of sin in case of refusal. As the establishment of the Society of Jesus coincided with the Protestant Reformation the efforts of the first Jesuits were naturally directed to combat that movement. Under the guidance of Canisius so much success attended their work in Germany and other northern nations, that, according to Macaulay, Protestantism was effectually checked. In England where Elizabeth had inaugurated a movement against her Catholic subjects, and previous to that under Henry VIII the Jesuits stopped at no danger to go to the rescue of their brethren in the faith; and what they did there was repeated in other parts of the world. "In spite of oceans and deserts, of hunger and pestilence, of spies and penal laws, of dungeons and racks, of gibbets and quartering blocks, the Jesuits were to be found under every disguise, in every country; scholars, physicians, merchants, servingmen, in the hostile court of Sweden, in the old manor houses of Cheshire, among the hovels of Connaught arguing, instructing, consoling, animating the courage of the timid, holding up the crucifix before the eyes of the dying."

Such is the testimony of Macaulay, a Protestant historian. Though many died as martyrs on the scaffolds and in the prisons of England and elsewhere, yet their skill in evading detection as well as their courage in living in the midst of their enemies and their great success in winning converts well explain the hatred with which they were regarded in Protestant

countries from the beginning, while it gives us the historical origin of the tradition of cunning and deceit which has always been associated with the name of Jesuit.

Under James I they were accused of complicity in an alleged attempt to blow up both houses of Parliament, and though clearly proven to be innocent of the charge, Father Garnet, who was said to have been cognizant of the plot, was executed, and the accusation is still believed. Guy Fawkes' Day commemorates the event and perpetuates the calumny. It is probably in connection with this occurrence that the supposed Jesuit doctrine of "the end justifying the means" was first accredited to them and the accusation made that "it was their office," as Macaulay assures his readers, "to plot against the thrones and lives of apostate kings, to spread evil rumors, to raise tumults, to inflame civil wars and to arm the hands of the assassin." The first one who is accused of formulating the doctrine of the end justifying the means is Father Wagemann of Innsbruck 1762. Even the murders of Henry III and Henry IV of France were ascribed to them, and under Charles II of England six Jesuits were accused by Titus Oates of conspiracy and put to death. These and other charges have been repeatedly disproved, yet writers of romance, and even writers of history, never fail to find readers credulous enough to accept them as true.

While the Jesuits were propagating the faith in Europe they were sending missionaries to every part of the world to preach the Gospel to heathen nations. Greatest of all these apostles was Saint Francis Xavier whom all Protestant writers unite in glorifying and whom the pagans almost worshipped as a deity. His name is still mentioned with enthusiasm among the pagans in Japan and the Occident. The conversions which he effected and the miracles he wrought almost defy belief. It is a testimony to the solidity of his teaching that although Catholicity was apparently obliterated in Japan by a series of bloody persecutions, the French missionaries who entered the country in 1860 found 30,000 Japanese Christians there. In spite of the absence of priests, the doctrines and practices received from Francis Xavier which meant death to profess openly had been handed down from father to son for a period of nearly 300 years. One blot on the reputation of the society in this field was the shameful apostasy of one of their superiors; but he atoned for his sin by a subsequent martyrdom.

In America the French Jesuits undertook the task of evangelizing the Indians, and at one time had 3,000 civilized and christianized Hurons under their control. In what is now New York, Father Jogues was cruelly tortured and slain on the banks of the Mohawk in 1646. In 1649 Garnier, Daniel and others were shot to death; and at the same time De Brébeuf and Lallemant were burned at the stake while their flesh was slashed with knives and their hearts cut out and eaten by the Indians of Lake Superior. Others died from want and exposure. It was Jogues who discovered Lake George to which he gave the name of Lac du Saint Sacrement. Later on Le Moyne came upon the salt springs near Syracuse. Marquette discovered the Mississippi which he named the River of the Immaculate Conception. He explored it as far as the mouth of the Arkansas, and returning home was the first white man with his companions to travel over the territory of what is now the city of Chicago. Wisconsin has erected a statute to his honor. Other Jesuits reached the Pacific coast and established the missions of California which they handed over to the famous Franciscan Junipero Serra when the society was suppressed. English Jesuits had come over with Lord Baltimore; and before that five Spanish members of the order had been slain by the Indians on the banks of the Rappahannock. The "Relations" of the French Missions have been recently published by an American publishing house and form 72 volumes of missionary and scientific information which the *Atlantic Monthly* considers the most precious material that could be desired for the history of this country. Similar records have been kept by the Jesuits of other nationalities. Marquette's diary and maps of the discovery of the Mississippi decided the controversy between France and England about the possessions of the western territory.

The missions of South America conducted by the Spanish and Portuguese Jesuits were remarkable in their character and extent. Father Anchieta, a native of Brazil, was particularly distinguished for his missionary success as well as his gift of miraculous powers. Peter Claver devoted himself to the thousands of negro slaves who were brought to the port of Cartagena. Other Jesuits traveled through Chile and Peru. Seventy of them on their way thither were said to be killed by Calvinists who intercepted them at sea. But their most famous work was what are known as the 'Reductions' or Christian Commonwealths of Paraguay. The description of these missions forms one of the most brilliant chapters of Chateaubriand's 'Génie du Christianisme'; but a recent work entitled 'A Vanished Arcadia' by Cunningham-Graham gives a more reliable and scholarly account of what was accomplished there. Voltaire says: "When in 1768 the missions of Paraguay left the hands of the Jesuits, they had arrived at perhaps the highest degree of civilization to which it is possible to conduct a young people."

"For nearly 200 years they controlled a district as large as France," writes Cunningham-Graham, "where they had established 32 towns in which there were 160,000 Indians whom they had converted and civilized, teaching them agriculture, the mechanical arts, commerce and even forming among them a small army of defense. The annual income of the country was about 1,000,000 reales. The missionaries were finally expelled by Charles III, and the country fell back into its primitive condition of a tangled wilderness."

The reasons of their expulsions were first the jealousy of the Spaniards at being excluded from the territory, secondly the anger of the colonists at being prevented from enslaving the Indians, and thirdly the ungrounded suspicion that there were gold mines in the missions. An impression in the royal mind that the Jesuits had reflected on the circumstances of his birth made him an easy instrument in the hands of the enemies of the society. "Curious as it may appear," writes Cunningham-

Graham, "the bitterest opponents of the Jesuits were Catholics, and Protestants have often been their apologists. Buffon, Raynal and Montesquieu with Voltaire, Robertson and Southey have written favorably of the internal government of the mission and the effect it produced. When the Spanish general was sent to dispossess them, he set about it with more preparation than Cortes or Pizarro made for the conquest of Mexico or Peru. But there was no resistance, and all the wealth the fathers had was the poor clothes on their backs." The destruction of these missions was probably a part of the prearranged plan for the annihilation of the whole society.

The missions of Japan which Francis Xavier had inaugurated continued after his death in spite of the fierce persecutions in which many Jesuits perished. He had been unable to reach China and died on a lonely island off the coast. Ricci, Verbiest, Schall and others carried out his project and became the advisers of the emperor as well as his astronomers, mathematicians and mechanicians. The great bronze astronomical instruments carried off by Germany on the occasion of the invasion of that country by the allied powers of Europe were the work of the Jesuits of the 17th century. As soon as the mission was started, great numbers of Jesuits came from Europe, half of them generally dying on the passage. In 1661 they possessed 151 churches and 38 residences there, and had written as many as 131 works on religion, 103 on mathematics and 55 on physical and moral sciences.

Numberless other missions were established elsewhere; de Nobili for instance lived like a Brahman in India to reach that particular caste, and was almost suspected of apostasy for doing so. He is said to have made 100,000 converts. Jesuits overran the whole Indian peninsula and crossed the Himalayas into Tibet. Africa had long before been penetrated, and one of the first members of the society was Patriarch of Ethiopia. The present explorers of the Dark Continent find remnants of former missions far in the interior. They had gone from Mexico to the Philippines in the earliest days; they had entered Tartary and Lebanon, and when their own efforts were thwarted they induced others to take their places. Thus De Rhodes, a Jesuit expelled from Japan, founded the Société des Missions Etrangères, a body of secular priests who have given a great number of saints and martyrs to the Catholic Church.

While the Jesuits were engaged in missionary work among the uncivilized peoples of the world they erected splendid churches all over Europe, and furnished such orators to the pulpit as Bourdaloue in France, Vieyra in Portugal and Segneri in Italy. The 'Book of Spiritual Exercises,' according to Saint Francis de Sales, "has converted as many souls as it has letters." But their apostolic work was not restricted to preaching, and we hear of a single French Jesuit who during his 40 years of ministry had established as many as 146 hospitals for the poor. They founded orphan and Magdalen asylums. They were the confessors of kings and princes and delegates of the Holy See, but they extricated themselves from these honorable charges as soon as it was possible to do so. At the time of the suppression they controlled and directed the majority of the ecclesiastical seminaries of Europe.

The success of the society in the work of education forms a great chapter in its history. Their method is found in what is known as the 'Ratio Studiorum' or Plan of Studies. It is a complete system of pedagogy and covers the whole field from the lowest class of grammar up to philosophy and theology. The plan was first conceived by Ignatius himself, and subsequently elaborated by one of his successors, Claudius Aquaviva. Compayré, one of the chief pedagogists of the present time, denounces it as a mere system of memorizing. Bacon says of it: "Never has anything more perfect been invented." Their colleges at one time covered all Europe, and in the single school of Louis le Grand they had as many as 3,000 students. Kings assisted at its public academic exercises. Among their scholars they can claim some of the greatest men of modern times, as for instance Popes Gregory XIII, Benedict XIV, Pius VII, Saint Francis de Sales, Bossuet, Fleury, Flechier, Montesquieu, Malesherbes, Tasso, Galileo, Corneille, Descartes, Molière, Mezzofanti, Muratori, Buffon, Gresset, Canova, Tilly, Wallenstein, Condé, the Emperors Maximilian, Ferdinand and others. Even Voltaire was one of their pupils. The disturbed conditions of modern times prevent a similar brilliant showing, but many of the most distinguished Catholic churchmen of to-day have studied in their schools, and notably Leo XIII who was trained by them from his college classes to the end of his theological course.

Within their own ranks they have furnished great scholars in all branches of philosophy, theology, history, philology, literature and science. It is sufficient to name such men as Suarez, De Lugo, Bellarmine, Toletus, Lessius, à Lapide, and to note that the treatises of Jesuit writers form the textbooks in all the theological seminaries of the Catholic Church to-day. They have written in almost every language and on every conceivable subject, and the mere catalogue of their writers, though not yet complete, already fills more than seven large quarto volumes. Their missionary enterprises were never disjoined from scientific investigation.

Their history is marked by ceaseless activity in launching new schemes for the spread of the Catholic faith, and by absolute fearlessness in opposing error regardless of any consequences to themselves. These two characteristics may explain why even by some Catholics they are regarded as a disturbing element in the Church. One of their most noted disputes with churchmen was with the Dominicans on grace, during which the Jesuit doctrine of grace was formulated. The contest lasted for nine years, and although great theological learning was adduced on both sides a truce was imposed by the Pope without any decision being arrived at. Of far greater consequence was their war with the Jansenists. It was chiefly on this occasion that the society was accused of laxity in their moral code and that their great antagonist Pascal won fame by his 'Lettres Provinciales' which like the famous 'Monita Secreta' of former times purported to be the private instruction of superiors to members of the order. After this contest their expulsion from France was an easy

task, as the Jansenists wielded great political influence and were backed by the irreligious element which was growing rapidly there.

They have been expelled over and over again from almost every Catholic country in Europe, always, however, coming back again to renew their work when the storm had subsided; and this fact has been adduced as a proof that there is something iniquitous in the very nature of the organization. Worse still in 1773 the entire order was suppressed by a brief of Pope Clement XIV and all their goods confiscated. They then numbered 24,000 members and had establishments in all parts of the world and flourishing missions, all of which were immediately destroyed, but not one Jesuit uttered a word of complaint or protest. What is remarkable is that while Catholic Popes expelled them they were protected by the schismatic Catherine of Russia, and the Protestant Frederick of Prussia, the friend of Voltaire. This very protection was urged as a reproach against them and as a proof of their guilt.

With the exception of the disastrous financial speculation of Lavalette, which was the sin of an individual and not imputable to the entire society, as commercial transactions were absolutely prohibited by the statutes, the society is proved to be guiltless both in its partial suppressions and in its total abolition. This is clear from the very brief of Clement XIV which dealt the blow. In that document all the charges are enumerated, but not one is pronounced to be true. The society was suppressed as a political necessity and for nothing else. The encyclopædists of France regarded it as their most redoubtable opponent and had vowed its destruction. "Destroy the Jesuits," said Voltaire, "and we shall make an end of the beastry Church." In this work the Bourbon kings had to be enlisted. Madame de Pompadour, the king's mistress, whom the Jesuits had refused to absolve, influenced Louis XV; the Spanish and Portuguese ministers wrought on the fears of their sovereigns by forged documents containing threats and plans of assassination, and when all was ready the monarchs gave the Pope a choice of suppression of the society or schism. The Pope yielded, and is said by Pius VI and Pius VII to have lost his mind in consequence. The vindication of the society came immediately. The very Pope who suppressed them approved of their corporate existence in Russia. Pius VI who succeeded him in the following year readmitted them into Italy, and Pius VII on the fall of Napoleon re-established the society in all its integrity on 7 Aug. 1814.

Since its rehabilitation the society has continued to increase in spite of constantly increasing difficulties. In the beginning of 1916 it counted 17,008 members, of whom 8,448 were priests, and 4,413 scholastics in preparation for the priesthood. The general of the society is Uledimir Ledochowski, who was elected 11 Feb. 1915. In the United States the beginning of 1917 there were 2,626 Jesuits, with colleges and churches in the principal cities and with flourishing missions among the Indians of the Rocky Mountains and Alaska. In Cuba and the Philippines their schools have achieved remarkable success, and the great meterological observatories of Havana and Manila were established and are at present controlled by them. The chief houses for studies for the American members of the order are at Woodstock, Md., Saint Louis, Mo., and Montreal, P. Q.

In some countries of Europe the same hostility still pursues them. In the revolutions of 1830 and 1848 their houses were closed and the members driven out of the country. In the Kulturkampf inaugurated by Bismarck they were the first victims, and all the efforts of the Centre party have hitherto failed to secure their re-entrance into Germany. Similarly they were the first to be struck in the present religious persecution in France. On the other hand they have been the recipients of countless marks of esteem and affection on the part of Leo XIII, and he placed the stamp of his approval on the society by adding many new names to its already long list of canonized saints and martyrs.

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T. J. CAMPBELL, S.J.

JESUP, Morris Ketchum, American banker: b. Westport, Conn., 21 June 1830; d. New York city, 22 Jan. 1908. He was engaged in banking in New York 1852–84, but retired from business in the latter year. In 1881 he became president of the New York City Mission and Tract Society, for which he subsequently erected the DeWitt Memorial Church in Rivington Street, in memory of Rev. T. DeWitt, his father-in-law. He was made president of the Five Points House of Industry in 1872; was a founder of the Young Men's Christian Association, of which he was president in 1872. He was also president of the Metropolitan Museum of Natural History in 1881, and of the New York Chamber of Commerce 1899–1907. To the Metropolitan Museum of Art he gave a collection of native woods valued at $100,000; to the Woman's Hospital in New York city, $100,000; and to Yale University and Williams College, also large sums. He endowed the Jesup North Pacific Expedition (q.v.), and gave liberal sums as well as much time and thought to the establishment of schools for the colored population of the South. In 1905 he received the order of knighthood from the Czar of Russia for his philanthropic work. Consult Brown, W. A., 'Morris Ketchum Jesup' (New York 1910).

JESUP NORTH PACIFIC EXPEDITION, The, an American organization for archæological research, supported by Morris K. Jesup (q.v.), and conducted under the auspices and direction of the American Museum of Natural History. The work began in 1897 in British Columbia. In that year Prof. Harlan I. Smith began to dig in the Thompson River district. In successive years he worked a little

farther east, and also around Puget Sound, and down the west coast of Washington. Results of these explorations have been compared and conclusions drawn as to the class of people who inhabited these regions in prehistoric times. Very interesting differences were found among them. Some were more highly developed than others. In particular, one small section east of the city of Vancouver was found to reveal traces of a people much more highly developed than any others of the section, and interesting in many ways to the archæologist. Some of the regions explored revealed the remains of coast tribes; others of interior tribes. At some points these characteristics merged, producing a different type. New discoveries of one season explained things not understood in previous explorations. So to gather up missing links and further elucidate the whole region, especially that interesting little people near Vancouver, it was necessary to take up some new territory and thoroughly explore it. Professor Smith, therefore, went into the Yakima Valley in northern Washington in 1903. On the map this section does not look far from the Thompson River district in British Columbia. And when one reflects how very similar are the white people now inhabiting the two sections and how near the two districts are, it is interesting to find that the prehistoric peoples inhabiting them differed at least as much as the Spanish and the Germans, according to Professor Smith's conclusions. Not only their culture, but their skulls were different, as shown by the skeletons brought back by the expedition. These ancient tribes seemed to have lived, each in its little nook of coast or river valley, for unnumbered ages, never going to see what was on the other side of the mountain; developing each its own little morsel of civilization in its own little way, its life and culture and development modified by the little corner of the earth's surface in which it sat down, seemingly to stay forever. Sometimes shell heaps are found miles in length, and with tree stumps six feet in diameter standing on nine feet of these layers, of which each is only an inch or two in thickness. It took a good many generations of Indians to pile up those successive layers with the shells from their shell-fish dinners. A stump of Douglas fir, over six feet in diameter, stood on a shell heap eight feet below the surface which contained human remains. The tree indicated an age for the top layers of more than 500 years. The material brought back included carved and sculptured pipes, stone mortars, pestles, and sinkers, bone implements used on spears, deer antlers used as handles, stone adzes differing from those found anywhere else, bone needles, shell ornaments, and the like. The expedition also found many paintings and sculptures on rock walls, which were photographed.

JESUS, SON OF SIRACH, mentioned in the book of Ecclesiasticus (l, 7) as the author of that book. In the Septuagint Ecclesiasticus is called the "Wisdom of Jesus, Son of Sirach," or the "Wisdom of Sirach." He was a native of Jerusalem, the son of Eleazer, and the book reveals its Palestinian origin. He was a scribe and G. Margoliouth argues (from li, 23) that he was "in the latter part of his life the head, and probably founder and sole teacher of an academy for the moral instruction of youth at Jerusalem."

JESUS CHRIST, the founder of the Christian religion. Four documents dating from the second half of the 1st century, the "Gospels," give some account of the life of Jesus, chiefly confined to his brief public work and death. Beyond what they give little is known as to his history. Some of the most important facts are referred to in other writings of the New Testament, especially in the letters of Paul; secular history contains mere references to him; a number of later writings, the so-called "Apocryphal Gospels," purport to give additional information, but they are fictitious and worthless; and beyond a very few sayings which were probably rightly attributed to Jesus, called "Agrapha," tradition has preserved nothing of value which was not embodied in the Gospels. These narratives vary, but are rarely inconsistent: usually they may best be regarded as complementary, and the picture of the life and work of Jesus which may be drawn from them has been accepted as trustworthy throughout Christendom in all centuries, and while on many points confirmation from other sources cannot be expected, the investigations of impartial scholars have rather confirmed its accuracy than invalidated it.

Birth and Parentage.— According to the Gospels, Jesus was born in the family of a carpenter, named Joseph, living in Nazareth (q.v.), a small town in southern Galilee. Descent from the line of kings of Judah which began with David is positively claimed for Joseph, and, as some understand the genealogical tables, for Mary, his wife, as well, but during the centuries of national disaster the descendants of David seem to have sunk into poverty and inconspicuousness. While Nazareth was the family home, the birthplace of Jesus was Bethlehem (q.v.), the village of Judea in which David himself was born, a fact which is explained by mention of a census said to have been made under Roman authority while Quirinius was Roman representative in Judea, and to have required that all citizens should be enrolled at the original home of the family. Though no other record of this enrollment has yet been discovered, late discoveries make the fact seem more plausible than it was formerly regarded by some scholars.

The Gospels represent Jesus as born of a virgin, conception having been due to special divine power. The date of his birth cannot be given with certainty as to day, month or even year. Since it must have somewhat preceded the death of Herod (April 4 B.C.), it probably occurred sometime in the year 5 B.C. (possibly 6). It is reported that Mary, in a village strange to her, and at the time overcrowded with visitors, could find no place to lay her new born babe but in a manger. But at the presentation in the Temple for the offering of the sacrifices which Jewish ritual prescribed after child-birth, the infant was joyously hailed by Simeon and Anna, aged saints profoundly possessed by the common Messianic expectation of the nation at that time, and, as shepherds from not far away had come in the night of his birth in obedience to a vision of angels, so, later, the Magi (q.v.) from afar guided by a star sought the child to offer him obeisance and rich gifts. This visit of the

Magi, however, made Herod aware of the birth of a child who might grow up to be a dangerous rival of the dynasty which he hoped to found, and it is handed down to us that unable to trace it he ordered the slaughter of all the infants of the village up to the age of two years. But his parents, divinely warned, had taken the child to a safe refuge in Egypt, where they remained till the death of Herod, presumably only a short time. If they returned in the expectation of bringing him up in the ancient home of his line, they were deterred by fear of Archelaus who had succeeded his father as ruler in Judea, and consequently they turned aside to Nazareth where they were secure under the milder rule of Antipas.

Early Manhood.— Of the life of Jesus up to manhood nothing is known, except the mere mention of his visit to Jerusalem when 12 years old. It can be supposed only that He was subjected to the natural influences of a religious Jewish family of the time, of synagogue and of school, of a village at once quiet and yet close to the thronging traffic on one of the great thoroughfares of that age, and finally of the work of a carpenter, for such he is said to have been, till 30 years of age. It was about this time, possibly in the year 26 (or 27) that John the Baptist (q.v.) began his public career, and at once aroused great religious and patriotic fervor in the nation.

The careers of neither John nor Jesus are intelligible without an understanding of the expectant attitude of the Jewish people in the first century. The ancient prophets of the nation had centuries earlier foretold a renaissance of the Hebrew kingdom under a descendant of David, through the generations this hope smouldered in the hearts of the people, only fanned to a brighter flame by blasts of persecution and national disaster, and the whole influence of the sect of the Pharisees (q.v.), popular and powerful out of proportion to their numbers, increased its intensity under Herod and his successors. The people were ready to be fired by the proclamation so strikingly made by the gaunt desert-dweller that the fulfilment of the national hopes and dreams was near: "The kingdom of heaven is at hand." The preaching of John was, however, no less moral and religious than patriotic. His message was "Repent"; let the nation prepare by penitence to meet the king coming in his kingdom. This prophetic voice set the country in a blaze. Throngs gathered to listen to the new preaching and by a striking symbol, a plunge in the rushing Jordan, to pledge themselves to the new movement. After a time Jesus joined the crowds which attended the ministry of John. It is impossible to say what connection may have existed between John and Jesus. Not only were their families related, but there may have been constant intimacy. John, however, based his later testimony as to Jesus, not at all on his own knowledge of him, but entirely on the divine revelation which was his commission. Jesus offered himself for baptism, insisting that the reluctant preacher should perform the rite, and thus pledged himself to the Coming Kingdom. While it is not claimed that the wonders which attended the baptism were known to others than John and Jesus himself, the story of the Gospels is that a heavenly voice asserted the Messiahship of Jesus, and that with the appearance of a dove the Divine Spirit came to him. The conviction of his mission to his nation and the world was no new thought to the carpenter of Nazareth, and it was with this thought in mind that he recognized the significance of the Baptist's public appearance, joined his auditors, and submitted to the ordinance which he administered. Yet it is not surprising, on the other hand, that he felt constrained, when his own conviction was confirmed, to seek the desert of Judea that alone he might adjust himself to the new responsibilities and burdens of the mission which he must undertake. Amid the solitude of the barren rocks and gloomy caves of that desolate region he meditated and struggled. Of this period we know only the striking story, necessarily autobiographic in origin, in which he depicts the struggles which he underwent as due to Satan's influence. Temptations thus forced in upon him to selfish use of his power, to sensational fanaticism and to compromise with evil in order to advance his ends, were successively resisted, and at the end of 40 days he came forth the victor in all these spiritual conflicts, ready to enter actively on his ministry.

The Ministry.— Jesus returned to the Jordan where John was still at work, and aided by his testimony associated with himself a little group who instinctively recognized in him a future leader of the nation. He went from there first to his home district, where he and his companions were guests at a wedding at Cana, a little town which has been hallowed in all the Christian centuries by John's report of the changing of the water into the wine needed for the entertainment of the company in the prolonged merrymaking incident to such an occasion. Then, as it was near the Passover time, Jesus, accompanied by his mother and brothers as well as his few followers, after staying a short time at Capernaum, went on to Jerusalem. How long he remained in or near the capital city must continue a matter of inference from a few doubtful phrases, but it seems most probable that he remained in Judea for some months, perhaps from April to December. The chief events ascribed to this period are the first cleansing of the Temple and the night interview with the influential rabbi, Nicodemus, and while the effect on city or nation was not great, it was presumably at this time that Jesus formed the strong friendships in Judea, to which incidental reference is often made afterward. The closing of this portion of his ministry seems to have been due on the one side to the hostile jealousy of the dominant Pharisees which would hinder success in Judea, and, on the other, to the imprisonment of John the Baptist which made it possible for Jesus to work in Galilee without what might have seemed competition, and, indeed, made it advisable for him to take up the work which John had been obliged to drop.

On his return to Galilee Jesus soon recalled his disciples, who, if they had accompanied him throughout his work in Judea, had scattered for a time to their homes, and associated himself with them in a companionship which was thereafter unbroken till his death. He made Capernaum the central point of his ministry, returning thither from each of his repeated tours throughout the many scores of cities and villages which then existed in Galilee. Wher-

ever he went the keynote of his preaching was the same as John's had been, "Repent, for the kingdom of heaven is at hand"; but as time passed his instructions, exhortations and warnings swept throughout the whole scale of human experience and touched every note of religious and moral truth. The keynote of his teaching about God was his love, infinite, untiring, eternal. On the ground of this love he proclaimed pardon to every penitent, even though a harlot or an outlaw. But this certainty and freeness of forgiveness was not allowed to diminish the loftiness and imperativeness of the standard of duty which he held up. Indeed, the high moral tone of his teaching, accompanied as it was by a constant and insistent demand for absolute sincerity, and his disregard for all mere forms, without the spirit in particular, his teachings and practice in reference to fasting, ceremonial purifications and Sabbath keeping, combined to set against him the Pharisees and through their influence the leaders and officials of the nation.

Popularity.— For a long time his popularity was great and throngs gathered to see and hear him, attracted in part by the reports of his miracles. Far and wide the stories were told that diseases yielded to his command, that the fevered, the palsied, the blind, the deaf and dumb, the lepers, the demonized, were restored to soundness, and, later that on repeated occasions he brought the dead to life. But these great works were distinctly secondary. He was first and foremost the Prophet of Nazareth, the Preacher. As such he spoke with peculiar attractiveness and power. His style was simple and direct, and his discourse was frequently adorned with unequaled parables, illustrations drawn from nature or common life, which, though sometimes veiling the truth from the thoughtless, sometimes added immensely to its clearness and effectiveness. His activity as a preacher at first won him steadily increasing popularity among the people at large, until, about two years after his work began, 5,000 men, whose hunger had been satisfied by his power on the lakeside, determined to make him king. But in this purpose they lacked all real sympathy with the character and aims which Jesus exemplified. The kingdom which centuries before the prophets of the nation had foretold was a kingdom to be sure, but a kingdom which should be based on a right relation of its subjects to God and existing only to serve the divine ends. The Jews as they read these prophecies had seen in them, only something political, worldly and selfish. Now when Jesus in fulfilment of prophecy had come to offer himself to the nation as its promised king, he would be king only as his kingdom might be the expression and instrument of a religious people, deeply, purely, unselfishly religious. So at the very climax of popular favor his clear vision instantly recognized how widely their ideals and purposes differed from his.

The Twelve Apostles.— For some time this condition of affairs had been anticipated, and Jesus had laid his plans and shaped his work accordingly. Since the Jewish people would have no such kingdom as he was about to establish, he had several months previously organized under the name of apostles a group of 12 of his disciples, to whom he would impart himself, and on whom he would so far as possible stamp himself, that they in turn might repeat his activity in their relations to others. Although he retained the name kingdom, what he looked forward to establishing was not a political but a spiritual community or body.

After the choice of the apostles the discourses of Jesus had been largely shaped for their special benefit; after his rejection of the offer of kingship from the unappreciative multitude, who in turn instantly deserted him when they saw that he would refuse to gratify their selfish hopes, his work was mainly for the benefit of the twelve, although he neglected no opportunity which came within his reach of trying to touch the soul of the nation or of individuals. Much of the last year of his life Jesus spent in seclusion. He made a journey, doubtless traveling in leisurely fashion, northwest from Capernaum to Sidon, returning as it appears by a roundabout route through the Decapolis, and another journey northeast to Cæsarea Philippi; some time was spent in Perea to the east of the Jordan; and though he seems more than once to have shown himself conspicuously in Jerusalem or its immediate neighborhood, yet during most of the time which he spent in Judea he secluded himself in an obscure village named Ephriam.

So far as the work of Jesus was concerned, the most significant event of the last year, if not of all the three years of his ministry, was the conversation with the apostles near Cæsarea Philippi as to the opinion of him which generally prevailed and as to their own convictions. While Jesus is reported at least once to have claimed to be the expected Messiah, and while this claim was necessarily implied in much that he had said of himself, and while some of the twelve had very early expressed the opinion that they had found the one of whom Moses and the prophets had spoken, yet this view had never found expression as their matured conviction. Such expression Jesus at last sought. His first question was as to the common sentiment concerning him, and the frank answer was that while he was generally recognized as one far beyond the ordinary, he was not at all recognized as the Promised One. In face of this answer Jesus pressed the further question, "What am I to you?" and the answer of Peter, one speaking for all, was that he was the Christ. This answer assured the ultimate success of his mission, for these followers would win more. But he could not fail at the same time to foresee the irrepressible conflict between himself and the leaders of the nation, and so, relying on their faith in him as the Christ, he immediately began to familiarize them with the fact of his death, though this only confused and offended them, and at the same time to add promises of resurrection which they do not seem to have grasped at all.

The apparent failure of the mission of Jesus which he thus foretold, culminating as it did in his rejection and death, was due alike to what he was, what he taught and what he demanded. He himself was devoted with absolute singlemindedness to his work. sincere, unselfish, loving, beneficient, and pure with such perfect and manifest purity that only a few voices of detraction have ever been out of harmony with the almost unanimous recognition and assertion of the sinlessness of his whole life. His teaching, while not in all respects original

in matter or form, was in spirit and effectiveness such an advance on the Old Testament which he confirmed or the rabbis with whom he largely agreed that it seemed "a new teaching." He demanded of others the same perfection of sincerity, altruistic self-forgetfulness and supreme devotion to the will of God which he himself practised, and he as sternly denounced hypocrites as he tenderly welcomed penitents. All his teaching came with a unique tone of authority and this was made more significant by the claims which he advanced for himself. He occasionally asserted and constantly implied that he was a special messenger from God and unique representative of Him, and from time to time he distinctly claimed divine attributes and powers. Thus he spoke; to confirm this he pointed to his miracles; as such he held himself up as the proper object of supreme and absolutely limitless devotion; the recognition of this supremacy he demanded of all and gladly accepted from his disciples, a self-assertion which in view of his sincerity and simplicity of soul is as significant as in view of his transparent honesty coupled with unsurpassed sensitiveness to evils is the absence of ever confessing a fault. Between such a one with such a message and such demands and the rulers of the nation at the time there was necessarily an irreconcilable antagonism which could end in no way but in his death.

The Messiah.— In the spring of the year 29 (possibly 30), after Jesus had been before the public for three years, the task of implanting the spiritual kingdom in the hearts of the select 12 was so far completed that it would be permanent, and at the same time the conflict with the authorities could not wisely be longer postponed. Accordingly Jesus went up to Jerusalem to the Passover with the throngs which assembled at that time from every part of the country. While he gave repeated proofs that in spirit he was walking in the shadow of the cross which he foresaw at the end of the road, yet this journey, unlike those which had preceded it, was intentionally made, by the sending of 70 messengers before him to proclaim his coming, a significant progress through the country. Reaching the neighborhood of Jerusalem, he stopped for the Sabbath at the neighboring village of Bethany, to which he returned each night till the end, and then on the following day he made a somewhat formal entry into the capital city. It needed only that he should mount a riding ass that those who accompanied him should be reminded of an ancient prophecy, and they, with another throng which came out from Jerusalem to meet him, acclaimed him as the promised and coming king, carpeting the road before him with green branches from the trees at the roadside and with their own clothes thrown before him in the zeal of their loyalty. Thus they led him to the Temple, where the procession dispersed. While informal and at first thought only a failure in its lack of definite result, this "triumphal entry" had deep significance as a public claim to his right to rule the nation as God's appointed representative, and he stopped short of assuming this office only because he desired and demanded first the acceptance of him by the nation. During the days that followed he repeated this claim in various ways; again he drove out of the Temple the huckstering crowds so out of harmony with its proper use, and in prolonged controversy with the representatives of all the parties of the time he bore himself as their Master and proved himself such. All this goaded his enemies at last to action, and through the treachery of Judas Iscariot, one of the inner circle of 12 disciples, almost at once an unlooked-for opportunity presented itself to them.

The Last Supper.— On Thursday evening of Passover week, after special precautions to keep secret the place of their assembling, Jesus sat down at a last supper with his apostles to what he knew would be his last interview with them before his death. While the traitor has gone out to secure his arrest, he pours out his soul to the others in words too tender and profound for their comprehension; he warns them that they will speedily desert him to go alone to his fate; he tells them something of the unique significance of his death in language which contains in germ the later doctrines of the Church, on this point; presenting them bread and wine, he instituted the second of the two rites of the universal church and finally commends them and all future believers in him to God in a prayer of incomparable elevation and pathos. He then went out to a resort familiar to him and his friends, an olive grove named Gethsemane in a valley close to the walls of the city. There the horror of the coming hours, not craven fear of death, but distress at the very thought of the tremendous experience which he must undergo in soul, drew from him a thrice repeated prayer of such intensity that the very blood was forced through the pores of the skin, but on the prayer followed serenity of resignation and purpose which continued unruffled to the end. Then he awakened his disciples who to his disappointment had repeatedly been overcome by sleep and so had left him to his spiritual distress without even the sympathy of his friends, and went to meet the force of Roman soldiers and Temple guards which in needless precaution the officials guided by the traitor brought to seize him. He quietly submitted to arrest, and his followers struck but a single blow in his defense and then scattered in the darkness, two of them, however, John and Peter, followed at a distance, the latter only to deny later all discipleship and even acquaintance.

Trial for Blasphemy.— While some details of the four accounts of the trials of Jesus are obscure, if not inconsistent, yet their general course may easily be made out. At the house of the high priest Caiaphas, or of the still more influential Annas, his father-in-law, and an ex-high priest, there was before daylight an informal session of all the Sanhedrin who could be gathered. Unable to find even perjured testimony which was sufficiently consistent to warrant his condemnation, the high priest as president of the great court of the nation put Jesus under oath and asked him if he claimed to be the Christ. Firmly and positively Jesus answered that he was, whereupon his enemies without even pretense of investigation declared this claim to be blasphemy for which according to Jewish law he must die. But this verdict would be legal only if rendered in the daytime, and so, having been left during the interval to be the object of mockery by the guards, as soon as the day broke, he was formally arraigned and

condemned. As, however, the right to inflict the death penalty had been reserved to himself by the Roman procurator, in order to accomplish their purpose they must secure his condemnation of Jesus in addition to their own, and accordingly the Sanhedrin conduct him to Pilate and demand his execution. But Pilate refused to order his execution without investigation, and when they charged him with instigating sedition against the Roman government, the judge instantly recognized their malicious insincerity and the innocence of the prisoner. In his consequent desire to release him Pilate in turn pronounced him innocent; sent him to Antipas, who only made sport of him and returned him; vainly tried to stir up the populace to demand his release according to the custom that a prisoner should be released at Passover time; ordered him scourged in hope that that cruelty would satisfy his enemies; displayed him bloody from the torturing lash and crowned by the soldiers with thorns in cruel jest, fancying that this sight would surely evoke pity; but finally, terrified at the mutterings of the crowd and fearing lest should he persevere charges might be made to the emperor against himself, Pilate ordered the crucifixion of Jesus.

The Crucifixion.— The execution took place at once, scarcely later than the middle of the forenoon. Although so far weakened by the sufferings of the night and morning that the sufferer fainted under the cross which, as was customary, was laid on him to bear to the place of execution, he bore himself throughout with majestic patience and dignity. Under the jeers of his triumphant enemies, in sight of his mother and friends, in the unexplained and portentious darkness which beginning at noon lasted for hours, amid the indescribable physical tortures of the cross, he spoke but to pray forgivingly for those who were the agents of his suffering, and to commend his mother to John, her nephew and his most intimate and beloved disciple. At mid-afternoon he uttered a cry to God, "Why hast thou forsaken me?" which can be understood only as expressive of intensest soul agony. As if this agony culminated and ended with the cry, he then spoke calmly of his thirst and took the drink which a sympathetic bystander pressed to his lips, then commended his spirit to God, and with a loud shout expired, it would seem with a literally broken or ruptured heart. Although death seldom came so soon to the crucified, yet the fact is undeniable in the case of Jesus, for when somewhat later the criminals who had been crucified with him received a blow intended to hasten their death, the soldiers recognized that he was already dead, and yet one of them thrust a spear deep into his side, apparently touching the heart, and on Pilate's inquiry the officer in charge certified to his death. By leave of the governor two members of the Sanhedrin, who were secretly disciples, took down the body and hurriedly but reverently buried it at the close of day not far from Calvary, where he had been crucified, in a rockhewn tomb, which later was officially sealed.

Of the facts relating to Jesus during the next few weeks, no less than five (if the last verses of Mark are by another hand, then six) separate accounts are preserved, no two precisely agreeing, but, on the other hand no two being mutually contradictory, and one of these accounts, that of Paul, was written within 25 years of the events narrated. It is told that first women going at the dawn of Sunday entered the open tomb but found not the body of Jesus; that later Peter and John also found it empty; that Peter, then 10 of the apostles together, and also two other men miles from Jerusalem, as well as Mary Magdalene, saw Jesus that same day in recognizable human form and talked with him; that these appearances and conversations were repeated at different places and in varying circumstances for about six weeks; that on one occasion he was seen by as many as 500 at the same time, some of whom were at first doubtful as to the facts; and that then these manifestations entirely ceased, except for the experience of Paul. It is certain that the disciples in these few weeks had come to be convinced that Jesus had actually been with them and that consequently they passed out of a state of gloom and despair into joyous and unflinching boldness; that the belief in the physical resurrection of Jesus was an essential part of the creed and preaching of the primitive Church; and that the first day of the week became the Christian day of worship. No plausible explanation of these facts, of the empty tomb; of the reports and convictions of the disciples; who claimed to have seen and talked with Jesus in human form, especially of the case of Paul; of the revulsion of feeling on their part; of the consequent foundation of the Christian Church and of the consecration of the first day of the week, has ever been given except that after his death Jesus, in this as in so much else unlike all other men, entered by resurrection and later ascension upon a new course of life and a new course of activity. Without the resurrection as well as the life and death of Jesus historical Christianity could never have come into existence; by it he became the founder of the Church and the dominating personality of the ages.

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DAVID FOSTER ESTES,

Professor of New Testament Interpretation, Hamilton Theological Seminary, Colgate University.

JESUS CHRIST, Logia of, the sayings of Christ, a title given to certain 1st century papyri, discovered in the course of excavations at Oxyrrhynchus carried on under the direction of Professors Grenfell and Hunt. The name

'Agrapha' is generally applied to these sayings. See AGRAPHA.

JESUS COLLEGE, Cambridge, England, founded by Alcock, bishop of Ely, in 1496. It has 16 foundation fellowships, open without restriction to all the king's subjects. Five were of the original foundation and the others have been added by subsequent benefactors. Six of the fellows are required to be in orders. The mastership and one fellowship are in the absolute appointment of the bishop of Ely. To the other fellowships on a vacancy the master and fellows nominate two candidates, one of whom is elected by the bishop. There are numerous scholarships. The college in 1913–14 — the last date for which statistics are of any value — consisted of a master, 10 fellows, 34 scholars and 186 undergraduates. It was founded on the site of the Benedictine nunnery of Saint Radigund, and its buildings, some of them dating from the 12th century, are of great interest.

JESUS COLLEGE, Oxford, England, founded by Queen Elizabeth in 1571 on the petition of Dr. Hugh Price, treasurer of Saint David's, Wales, who left lands for the maintenance of a principal, eight fellows and eight scholars. It was intended to be the Welsh college and a number of the scholarships are (unless in default of suitable candidates) restricted to natives of the principality. A fellowship founded by Charles I for natives of Guernsey and Jersey has been converted into two scholarships for natives of these islands or persons educated at Elizabeth College, Guernsey, or Victoria College, Jersey. This was the first college founded under the Protestant régime. The college faculty now comprises a master, 12 fellows, 30 scholars and an average attendance of over 200 undergraduates.

JESUS ISLAND, Canada, an island in the Saint John River, not far from where it joins the Saint Lawrence River; area, about 1,200 square miles.

JET, a mineral, which is found in compact masses so hard and solid as to be susceptible of being turned on a lathe and manufactured into ornamental articles. It has been worked for centuries in Whitby, England. It is found in thin laminations, which subsequently thicken out to two or three inches in the upper lias strata in that neighborhood; a lower bed, from which the best quality is obtained, has a thickness of 20 feet and is known as jet rock. Jet is supposed to have been worked in England as far back as the time of the Romans. Jet rosaries and crosses were common in the Abbey of Whitby when it was a resort of pilgrims. The jet manufactures of Whitby fell away about the time of Queen Elizabeth and were revived in 1800. It is also manufactured at Scarborough, England.

JETSAM, jĕt'săm, merchandise lost at sea either through being thrown overboard in the act of "jettison" (q.v.), or through the sinking of the ship. The term differs from "flotsam," goods which float after being thrown overboard; and from "lignan," when they are sunk but secured to a cork or buoy to permit future recovery. Goods lost in this way come under the law of "average" (q.v.) and their value may be recovered by the owner.

JETTÉ, zhĕ'tā', **Sir Louis Amable**, Canadian editor, jurist and statesman: b. L'Assomption, Province of Quebec, 15 Jan. 1836. He was educated at L'Assomption College and was called to the bar in 1857. He engaged in the practice of law at Montreal and also in journalism, becoming editor of *L'Ordre*, at Montreal. He was elected to the House of Commons for Montreal (East) in 1872–78. He became professor of civil law in Laval University in 1878 and in that year was appointed judge of the Superior Court of Montreal. In 1898–1908 he was lieutenant-governor of Quebec, and in 1901 he was knighted. He was a member of the Alaskan Boundary Commission in 1903 and since 1909 he has been Chief Justice of the Court of King's Bench, Montreal. He served on the commission for the revision of the Civil Code of Quebec, and is a commander of the Legion of Honor of France. Author of 'Observations relatives au code de procédure civil' (1888).

JETTIES are dikes at the mouth of a river or across a harbor bar to increase the riverine or tidal current by narrowing the channel and thus scour out a deeper bed, to accommodate navigation. Single jetties are solely at the mouths of rivers with strong currents, to deflect these to one side of its natural channel, but in most rivers and in all harbors they are double, forming an entire artificial channel. Briefly, the physical principles are: The power of water to transport solid matter varies as the square of its velocity, so that increasing the strength of current two-fifths will about double its sand-carrying capacity; the velocity increases with increase of slope and decrease of friction; the slope is increased by narrowing the channel, since it forces flood waters inside or outside to rise higher at the entrance, and the friction decreases as the width of the channel; and lastly, if a channel of a given depth and width passes a given quantity of water, then a narrower channel involves either a permanently greater height of water if the bed were rigid, or the scouring of the bed to a depth which, multiplied by the new width, will produce an equal cross-section with the old. The increased slope and the correspondent velocity vanish as the water cuts a deeper basin; but the velocity due to lessened friction does not, nor do the deepened channel, the greater discharge through it and the greater tidal fluctuation due to the larger basin. The channel is scoured along until the deepening sea establishes an equilibrium of action.

The system is not new. A number of important European rivers were jettied even before the middle of the last century, and others not much later. The Danube at Sulina had been deepened to 21 feet, from 8 feet before; and in 1874 Eads found seven German rivers, including the Oder and Vistula, improved so that with initial channels of 4 to 7 feet, they then had 13 to 23.5. Several of these are still deeper now, the result increasing somewhat for many years under the same conditions. The Neva in Russia has also such works; as also the harbors of Calais and Dunkirk in France. In the United States a very great number have been constructed, both for rivers and harbors; the greatest of all are the jetties at the mouth of the

Mississippi, and as the general principles are alike in all, these may be briefly described.

The Mississippi discharges its waters to the gulf not by one channel, but in the main by three, running through «passes» 12 to 17 miles long from the delta land to the sea and widely divergent. The largest is the Southwest Pass; next the easternmost, Pass à l'Outre, with two branches. In the middle is the smallest, South Pass, 600 to 800 feet wide, and taking not over a 10th the total discharge, with a shoal at its head only 15 feet deep, and a bar at its mouth only 8 feet; so that, with 30 feet of water through the delta, it was unserviceable for deep-water navigation. Capt. James B. Eads offered to build jetties to deepen the bar at Southwest Pass from its then 13 to 28 feet; but Congress preferred South Pass as cheaper and simpler, needing work only at the head and foot. Work was begun in June 1875 and within nine months the water was 13 feet on the bar; by 1879 it was 29 feet; it is now over 30.

The west side of the pass had silted up into land 4,000 feet farther out than the east, so that the west side of the two parallel dikes built out to 30 feet depth in the Gulf was about 7,800 feet, while the east was 11,800. First piles were driven in two rows 1,000 feet apart (the piles 12 feet apart) to mark the lines of the projected jetty-walls. Then mattresses were built, of willow branches, or young willows 15 feet long, cut with the leaves on, laid in four courses, each crosswise to the next and fastened together at top and bottom by pine planking 2½ inches thick, doweled with hickory pins; this compressed the willows to a thickness of about 2 feet and their brush-ends projected 3 or 4 feet. These mattresses were 100 feet long; for the bottom course they were made 50 feet wide, but steadily narrowed for each of the four courses at first needed to bring them to the surface of the water, the top one being 20 feet wide. Wider ones were used in deep water. These were built on shore, on ways as for launching boats; towed by tugs to the places indicated by the line of piles and sunk by loading one or two tons of stone on top. Once down, they speedily filled with sediment and became solid. At the sea end foundations of mattresses 200 to 300 feet broad were laid. For two or three years these stone-laden mattresses gradually sunk in the soft bottom and new ones were added at the top to bring the surface even. The willows not imbedded in sediment were riveted with stone. Where exposed to storms, they were considerably sloped and more thoroughly riveted. The sea ends were afterward capped with concrete blocks. The jetties have undergone considerable repairs since then, but have essentially done their work of making the river navigable for large vessels.

One of the difficulties was this: If obstacles were placed in the way of a free flow of water, the river would by so much at least desert this pass and run through the others; so that their heads had to be closed up to a sufficient extent to prevent this. Plans for improving the Southwest Pass in like manner were submitted by United States army engineers. Construction was begun toward the end of 1903 and completed five years later at a cost of about $2,625,000. The east jetty was extended for 3,000 feet and the west for 3,750 feet in 1909–12. The final depth gained is 35 feet.

At the mouth of the Brazos, west of Galveston, Tex., an ingenious plan was adopted for avoiding interference in the work by flood-tides: A long trestle was built out to deep water above high tide, the mattresses hung under it by ropes and the stone dropped on them from above to sink them. Instead of being launched from shore and towed, they were carried on a portable railway running on top of the trestle and let down.

The Columbia River jetty is the most conspicuous example of the single instead of the double dike. It is 42¾ miles in length, the longest in the world. The bar at the mouth of the river, ever shifting and sometimes not over 12 feet deep, had half spoiled this superb river for navigation, and was greatly dreaded. But the river has a mean high-water discharge of 60,000 cubic feet per second, a mean tidal ebb of 1,000,000, with tides of 6.2 feet; and in 1884 a single curved line of brush mattresses with rubble-stone copings was begun, completed in 1894, to turn the current away from spreading itself on both sides and scour out the channel on one. This was finished in 1894 with a channel 30 feet deep and made the river a highway of the heaviest ocean commerce, with lines to all Pacific lands. The improvement was not permanent and in 1902 the channel was only 21 feet in depth. In 1903 a north jetty 2½ miles long was projected, together with a 2½ mile addition to the south jetty. These additions were completed in 1913.

Others are too numerous for more than brief mention. At Yaquima Bay, Ore., 115 miles south of the Columbia — an estuary 20 miles long discharging into the sea through a narrow, tortuous, shifting channel, and over a sand-bar with 7 feet of water — parallel jetties about half a mile long, one of rubble-stone on a rock bed, one of brush and stone on a sand bed, have doubled the depth of water and made the channel calculable. At Galveston, the single jetty was a relative failure, it needing a double one to converge the tides; and in 1896 the government completed it, with sides of 35,000 and 25,000 feet, costing over $8,000,000, and furnishing 27 feet of water between the island and the mainland. Other notable ones are at the mouth of Saint John's River, Florida, beginning at the sides of the river-mouth and converging to 1,000 feet apart at the crest of the bar. Charleston's double one has sides of 15,000 feet each.

Consult Corthell, E. H., 'The Mississippi Jetties' (New York 1881); Haupt, L. M., 'Jetties for Improving Estuaries' in *Journal* of Franklin Institute (Philadelphia 1888); Perilli, «Jetties of Armored Concrete,» in 'Report of International Congress on Navigation' (Brussels 1905), and 'Transactions of the American Society of Civil Engineers' (Vol. LIV, Part A; New York 1905). Consult also *Engineering News* (New York 1874 et seq), especially nos. of 23 Aug. and 4 Oct. 1900, and 'Reports' of Chief of Engineers, United States Army (Washington, D. C.).

JETTISON, the throwing overboard of goods constituting a ship's cargo in order to lighten the load of a ship in distress, to save her from foundering, float her when stranded, or permit her to escape from an enemy. In such cases the loss to the individual owner is compensated by a general contribution levied

upon the owner of the remaining cargo, freight and ship, for whose benefit the merchandise was sacrificed. If, instead of being thrown overboard, goods are placed in small boats, or lighters, in order to ease the ship, and are subsequently lost, it still constitutes jettison. In case of insured goods the company with whom the jettisoned goods are insured is entitled to recompense through the law of average.

JEUNESSE DORÉE, La., lä zhĕ'nes dō'rā (Fr., "Gilded Youth"), sobriquet given to a band of counter-revolutionists against the Jacobins formed after the fall of Robespierre. Its members were youthful scions of aristocratic families and their warfare against the temporarily scattered Jacobins constituted rough physical handling wherever they were met. The term was originated by François Xavier Pageés in 'Histoire secrète de la revolution française.' The name and its English translation, "gilded youth," has come to be a common designation for wealthy young idlers.

JEVONS, Frank Byron, English educator and religious writer: b. 9 Sept. 1858. He was graduated at Wadham College, Oxford. He was connected with the staff of Durham University in various capacities from 1882, was vice-chancellor there in 1910–11, since when he has been pro-vice-chancellor, and from 1910 he has been professor of philosophy. Author of 'The Development of the Athenian Democracy'; 'The Prehistoric Antiquities of the Aryan Peoples' (1890); 'An Introduction to the History of Religion' (6th ed., 1896); 'Study of Comparative Religion' (1908); 'Personality' (1913); 'Philosophy: What is It?' (1914).

JEVONS, William Stanley, English logician and economist: b. Liverpool, 1 Sept. 1835; d. Bexhill, near Hastings, 13 Aug. 1882. He was graduated from University College, London. Having obtained an appointment in the Royal Mint, he went to New South Wales in 1854, but afterward returned to England, and in 1866 became professor of logic, philosophy and political economy in Owens College, Manchester, and this post he held until his resignation in 1876 in order to accept the chair of political economy in London University. He retired from this position in 1880 for the purpose of devoting his whole time to literary pursuits. He was drowned while bathing at Bexhill, Sussex. His writings include 'Pure Logic' (1864) and 'The Substitution of Similars' (1869), in which he sought to popularize symbolic logic through a modification of Boole's mathematical methods; 'Elementary Lessons in Logic' (1870); 'Theory of Political Economy' (1871); 'The Principles of Science' (1874); 'Money and the Mechanism of Exchange' (1875); 'Primer of Logic' (1876); 'Primer of Political Economy' (1878); 'Studies in Deductive Logic' (1880); and 'The State in Relation to Labour' (1882). Among works published posthumously are 'Methods of Social Reform' (1883); 'Investigations in Currency and Finance' (1884); and 'Pure Logic' (1890); 'Principles of Economics' (1905), parts of an unfinished treatise on economics with a number of essays contributed to periodicals. In a pamphlet on the 'Coal Question' (1865) he presented a mass of evidence to show that England's progress would be checked by want of coal; in his work in political economy he attempted to put the chief definitions in the form of mathematical quantitative formulæ, and in this way did important work in revealing the nature and relations of economic facts; he also developed the theory of marginal utility. His 'Life and Letters' edited by his wife were published in 1886.

JEW, The Wandering, a poetical personage of popular traditions, who owes his existence to a story connected with the well-known scene in the history of Christ's passion. As Jesus was on the way to the place of execution, overcome with the weight of the cross, he wished to rest on a stone before the house of a Jew, whom the story calls Ahasuerus, who drove him away with curses. Jesus calmly replied, "Thou shalt wander on the earth till I return." The astonished Jew did not come to himself till the crowd had passed and the streets were empty. Driven by fear and remorse, he has since wandered, according to the command of the Lord, from place to place, and has never yet been able to find a grave. Shelley, Lewis, Croly and Mrs. Norton in England, Schubart and Schlegel in Germany, and Sue in France, have turned this legend to account. Goethe has sketched Ahasuerus with great spirit and humor as a philosophic cobbler at Jerusalem who opposes Christ with a cold worldly logic which will not look above the things of earth. See WANDERING JEW, THE.

JEW OF MALTA, The. Marlowe's 'Jew of Malta' is memorable for at least three reasons. It was the most popular play of its period, if not the most popular English play up to that time. So far as is known, the plot was entirely original. Its chief character Barabas is the English prototype of a series of popular English characters, of which Shylock, Volpone and Sir Giles Overreach are noteworthy.

As Marlowe proceeded in the handling of plot he laid aside that "alchemy of eloquence" upon which he had depended. The main situation of 'The Jew of Malta' arises still from a vaunting spirit. Barabas in his opening soliloquy shows "infinite riches in a little room" to be his ambition. But the ambition is so crowded in the action that it is difficult to distinguish it from the blood lust so popular in the plays of the day.

The play was probably produced about 1589 at the Court and the Cock-Pit, the part of the Jew being taken by Edward Alleyn. It is first mentioned in Henslowe's diary in 1592, and was not printed until 1633, when it was given to the world in an edition by Thomas Heywood. As the play comes down to us it reveals very hurried composition. The first two acts are as precise as is the following play 'Edward II.' Thereafter the action becomes confused and crowded. Action follows action with little regard for motive and sequence. Barabas outlives a dozen deaths. More strangely still this portion lacks the magic of Marlowe's line. And yet there is no doubt that this second portion gave the play its popularity. Two characters stand out to appear again in the plays of later writers, Barabas, villain beyond nature, and Abagail, his daughter, who by her virtues shames the house that reared her. Editions: Dyce, A. (1850, 1858); Cunningham, Lt.-Col. F. (1870–71); Bullen, A. H. (1885); Mermaid Series, ed., Havelock Ellis (1887, 1903); Every-

man's Library, ed., Edward Thomas (1909). Consult Symonds, J. A., 'Shakespeare's Predecessors in the English Drama' (1881); Ward, A. W., 'A History of English Dramatic Literature' (3 vols., 1899); Ingram, J. H., 'Christopher Marlowe and His Associates' (1904).

THOMAS H. DICKINSON.

JEWEL, John, English bishop: b. Bude, Devonshire, 24 May 1522; d. Moncton Farleigh, near Laycock, Wiltshire, 23 Sept. 1571. He was educated at Merton and Corpus Christi Colleges, Oxford, and was elected a fellow of Corpus Christi in 1542. He was greatly influenced by the teachings of John Parkhurst, later bishop of Norwich, and he was a follower of Peter Martyr. He is known to have been a licensed preacher in 1551 and he had made a considerable reputation as a teacher. Upon the accession of Mary in 1553 all those suspected of Protestant leanings were weeded out of Oxford and Jewel was deprived of his fellowship. He made his way to the Continent, reaching Frankfort in 1555. He was associated with Coxe in his controversy with Knox, and later joined Peter Martyr of Strassburg, with him visiting Zurich and Padua. He returned to England on the accession of Elizabeth and was one of the Protestant clergymen selected as a disputant at the Westminster conference with the Romanists in 1559. He was consecrated bishop of Salisbury 21 Jan. 1560, and became recognized as the literary apologist of the Elizabethan settlement. He engaged in a controversy concerning the case of the Church of England as against that of Rome, first with Cole and later with the more formidable Harding. His 'Apologia ecclesiæ Anglicanæ' (1562) was stated by Bishop Creighton to be the "first methodical statement on the subject" and to "form the groundwork of all subsequent controversy." Harding published a bitter 'Answer' (1564), and Jewel followed with a 'Reply' (1565). Later developments were Harding's 'Confutation' and Jewel's 'Defence.' Jewel's theology was officially endorsed and enjoined upon the Church by Archbishop Bancroft in the Reign of James I. The 'Apologia' was condemned by the Council of Trent but its English translation was chained to the lectern in all Anglican churches by the order of Bancroft. His collected works were published under the direction of Archbishop Bancroft (1609); Cambridge (4 vols., 1845–50); Oxford (8 vols., 1848). Consult Le Bas, 'Life of Bishop Jewel' (London 1835).

JEWEL-WEED, TOUCH-ME-NOT, or SNAP-WEED, popular names for two plants, *Impatiens pallida* and *I. biflora,* of the family *Impatientaceæ,* well known in damp shady places throughout the cooler parts of North America, where they form dense masses. They are characterized by sac-like, pendulous, yellow or orange, more or less spotted flowers, and by their sensitive seed pods which when mature burst with the slightest touch and throw the seeds to a considerable distance. Hence the second and third names above. The first name is probably a survival of their use as antidotes for so-called Rhus poisoning.

JEWELL, Theodore Frelinghuysen, American naval officer: b. Georgetown, D. C., 5 Aug. 1844. He was graduated at the United States Naval Academy in 1864. He was appointed acting midshipman 28 Nov. 1861, and in June and July 1863 he commanded a naval battery of field howitzers in defense of Washington. He was commissioned ensign in 1866, served at various foreign stations, was commander of the Naval Torpedo Station in 1890–93, and of the naval gun factory in 1893–96. He was in command of the United States protected cruiser *Minneapolis* in the Spanish War and later commanded the armored cruiser *Brooklyn* in the Philippines. He served as a member of the Naval Examining Board and in 1904 was commander-in-chief of the European squadron. He was retired 22 Nov. 1904. Author of various articles on naval matters, particularly torpedoes and ordnance.

JEWELRY, ornaments for personal adornment, usually made of gems and precious metals. At some remote period primitive man gradually migrated northward from the tropical belt in which the species probably first came into existence, and as he felt the colder temperature severe and trying, especially at night, he was induced to invent some sort of covering or clothing, by means of which he could secure warmth. What the first clothing was, it is of course impossible to determine, but it may be conjectured to have consisted of belts of grass or leaves, knotted together either by their own stacks, or by accessory vegetable fibres. When men became hunters, which they did not do until they had progressed far enough to have invented offensive weapons, they no doubt soon used dried skins for clothing. A rough tanning of such skins could have been managed by rubbing them with fat. Then came the difficulty of fastening them. Some savage tribes still wear cloaks which have only a hole cut for the head to go through, and this is likely to be a primitive type; then, also, they might have been tied up with strips of sinew, but at an early stage they were pinned together with a bone or large thorn. Here is the germ of the brooch. Numbers of such pins have been found in all places where the remains of primitive man exist, and they range from the simplest forms to quite ornamental ones. The heads of the carved specimens show a certain amount of progression, and are often decorated with engraved lines, dots and circles. Ivory, wood and bone are all commonly used, and in time, as metal working became known, these early pins are imitated in bronze and gold. From the Stone Age, through the Bronze Age, up to the Iron Age, in which we are still considered to be, pins and their derivatives, brooches and buckles, have been universally used, and it is an interesting study to endeavor to trace their utilitarian development, as well as that of their artistic and technical beauties. Starting with the earliest metal pins, it soon appears that the head, or thickened end, is treated ornamentally, hammered flat, and pierced. Through the pierced hole in the top of the pin are often found wire rings coiled several times, or single rings, as in a number of specimens from Ireland. In the case of Roman jewels found in Britain, there are chains of which a few links only are left, and in one instance at least a pin, the head of which was threaded with a chain of several links, was taken from among the débris of one of the Swiss lake-dwellings. The modern safety-pin is quite the same in all essential re-

spects as one which was found by Dr. Schliemann at Mycenæ, and the same form, with the arch more or less specialized in design, has been very largely used north and south, east and west. The Greeks made the arch short, and enlarged and ornamented the nose or hollow for the pin to rest in; the Romans made the arch big. set it with beads of amber and bronze, and fretted it out in innumerable ways, with curves, spirals and all sorts of twists and turns which the fancy of the artist could devise. The Roman *fibulæ* are more usually made of bronze or silver, but the Greek are largely of gold, and of exquisite workmanship.

Of the principal tools that have been and are still used in the production of jewelry, the hammer in some form, at first of flint or some other hard stone, and later of metal, was probably the earliest employed, then we have the chisel and later the pointed graver, for engraving a design, and the drill for perforation, either the simple pointed drill, or else the bow-drill that has been used from the North Pole to the South Pole, by Hindus and Chinese, by civilized and semi-civilized peoples. Another essential article is a small crucible of clay, or even hardened sand, in which the metals to be used for soldering can be melted. It is important that only easily fusible metals be employed for this purpose, as those less easily fusible would be liable to make an imperfect joining and would probably break down. Setting precious stones in points, or galleries as they are called, initiated about a century ago, has led to machine stamping, the galleries being cut off, the settings stamped out and the stones fitted to the points which are then bent over. The free use of machine work has done much to lessen the artistic beauty of jewels. On the other hand we have to recognize that the employment of platinum settings, which has been general since 1900, has marked a notable advance. Large pieces of platinum, carefully drilled, with the metal filed away in the clear spaces between the platinum and the stone, make the latter stand out for itself, while in the gold settings formerly used the yellow metal was apt to obtrude itself too much. Sometimes precious stones are set in platinum worked into a weblike texture.

The first prehistoric necklaces were those made of the pierced teeth of animals. In a burial, situated at La Barma Grande, near Mentone, France, there was found in 1884, on a male skeleton, a necklace of 14 stags' teeth, pierced and strung, accompanied by pierced vertebræ of a fish, and having little ornamental pendants of carved bone; animals' claws were also pierced and strung in a like manner to form necklaces. But out of such small beginnings have developed the wonderfully-wrought necklaces of Egyptian and Greek art, and the splendidly designed works of the Renaissance and modern jewelers, as well as the marvelous variety of those produced in the Far East.

The evolution of ring forms covers as wide a range chronologically and geographically as does that of any of the types of jewelry. The origin of the ring has sometimes been ascribed to the knot, in connection with the supposed magic or binding virtues of a piece of string or wire twisted around the finger. Here as in some other cases, however, the comparative facility with which an ornamental effect could be attained was probably the main, if not the exclusive, cause for the wearing of rings. Hence we meet in the course of ages with an almost infinite variety of forms and materials, from a plain round hoop, to an elaborately chased metal ring, or one set with one or more precious stones.

The brooch in its manifold forms was a favorite ornamental object from an early period down to the 17th century, and even later. In mediæval times, the Irish and Anglo-Saxon brooches were made with an unhinged pin, which, after having traversed the material to be attached, was turned about until it could be passed through an opening formed on one side of the ring. Later. about the 11th century, the ring was flattened, the opening closed, the pin reduced in length so as to accord with the ring's diameter, and attached to the ring by a hinge. In this style the pin was held down on the ring by the pressure of the article of clothing it had passed through. The importance of the plaid among the Highlands of Scotland, as a badge of clannish devotion, served to retain the brooch longer in favor in the Highlands than elsewhere, since it both attached the prized garment and adorned it. A famous jewel of this kind is the Loch Buy Brooch. This is set with a Cabochon-cut rock crystal; along the ring are 10 projecting turrets, at the apex of each of which is a pearl. Originally in the possession of the Macleans of Loch Buy, this brooch was eventually acquired by a private collector, and was purchased by the British Museum at the disposal of his collection.

The earliest dated of the great jewel finds in Egypt were those discovered by Flinders Petrie in 1901 at Abydos in the royal tombs there. Among them the bracelets of the queen of Zer, a sovereign who reigned toward the beginning of the 1st dynasty, about 5400 B.C., give eloquent testimony of the skill of the Egyptian goldsmiths at this remote period. In one of these bracelets are a series of golden hawks surmounting alternate blocks of gold and turquoise; in another are groups of three dark beads of lapis lazuli, on either side of which are triple gold balls, beaten hollow and soldered together so cleverly that neither excess nor difference of color can be perceived. What is pronounced to be the richest of all Egyptian royal tombs is that found at Dahshur in the southern part of the great necropolis of Memphis, wherein had been sepultured several princesses of the family of Amenemhat II of the 12th dynasty (2716–2684 B.C.). The mummy of Princess Knoumit was adorned with a serpent necklace, composed of beads of gold, silver, carnelian, lapis-lazuli and emerald, as well as hieroglyphic signs wrought in gold and inlaid with gems. She had anklets, bracelets and armlets of gold with precious stone settings. To a later period, but still to one sufficiently remote, belong the jewels of Aah-hotep, queen of Sekenenra III (1610–1597 B.C.), of the 17th dynasty. This queen lived to be almost if not quite a centenarian, and in her tomb was discovered a wealth of jewels, a richly adorned diadem and a pectoral, splendid chains, necklaces, bracelets, armbands, etc., and also her gold signet ring. This discovery was made by Mariette in 1859, in the northernmost part of the Theban necropolis.

Although much valuable jewelry must have been produced in Babylonia and Assyria, the fact that the ancient peoples of these regions did not pay the same devout reverence to the remains of the dead as was done in Egypt, and the differences in architectural construction as well as in climate between Egypt and Mesopotamia, have combined to prevent the preservation of any considerable part of the jewels. The earliest works of the kind appear to have been executed of copper, and molds for casting metals seem to have been made in a very remote age. At a later time, the discovery of making bronze by alloying copper with tin rendered another metal available, and in the Assyrian period ornaments of this material to a great degree take the place of copper ones. Some of these bronze ornaments that have been preserved are highly decorated; one of them, a plaque which was evidently used to exorcise the demons of disease, bears, in an upper row, nine symbols of the gods; beneath them appear figures representing the seven evil spirits causing diseases, and below this is shown the patient stretched out on a couch, the god of the waters Ea, who is said to have instructed mankind in the arts, being figured in the act of pronouncing the magic formula destined to banish the disease. Underneath this again is depicted the fearful demon Labartu, who is being driven away by another demon, in obedience to the mighty words spoken by Ea. For earrings and necklaces gold and silver were much in use, some finely wrought gold necklaces from early Babylonian times being in existence.*

As to Hebrew jewelry before the time of the Kings, our very slight information is derived from the account of the offerings made by the children of Israel in the Wilderness for the decoration of the Tabernacle and for the forming of the Golden Calf. In the former case we are told (Exod. xxxv, 22) "the men and women brought bracelets and earrings and rings and tablets, all jewels of gold," and for the Golden Calf mention is made of gifts of earrings by men and women. The famous "Breastplate of the High Priest," if we regard this as a jewel, was of course the greatest work of the kind noted in Scripture.† In any case, however, these accounts are not contemporaneous, having rather a legendary than an historic value. The same may be said of the ring (probably a cylinder) given by Judah to Tamar (Gen. xxxvii, 12–26). Of course, Joseph's ring, a gift of Pharaoh, would have been a piece of Egyptian jewelry; indeed, in all probability this was the case also with the jewels contributed by the Hebrews in the Wilderness. At the battle of Gilboa, where King Saul met his death, he is said to have worn his royal crown, which was brought to David by the Amalakite who slew Saul (2 Sam. i, 10). In about 1030 B.C., David carried off from the statue of the Ammonite god Milcom a crown weighing, with its precious stones, a talent of gold, worth about $33,325; as David placed this crown on his head, he bore rather a heavy burden, for such an amount of gold would weigh some 110½ pounds avoirdupois. In the reign of Solomon, when the temple was to be built, the "Wise King" called in the aid of Phœnician craftsmen for its adornment, and probably the Hebrew jewels of this and a later time were made by Phœnicians, or by those who had received instruction from them. In Isaiah's age we learn from this prophet (iii, 16–26) that the "daughters of Zion" wore metal anklets, making "a tinkling about their feet," also circlets (tires) like the moon, as well as chains and bracelets, ornaments for the legs, headbands, tablets, earrings, rings and nose jewels. Undoubtedly in the case of the wealthy, these adornments were all made of gold.

In the development of the jewelers' art, Phœnicia played a similar part to Etruria, indeed the latter country was in many instances directly dependent upon the former. Little originality is to be noted in Phœnician work, but the Phœnicians, as the great trading-folk of the time between 1000 or 1200 B.C., and about 500 B.C., or earlier, when the Greeks first challenged their supremacy and then supplanted them, had been active carriers of foreign jewelry from land to land, besides producing a considerable quantity of their own workmanship based on foreign models. This was of course supplemented by the inland trade between the Greek colonies of Asia Minor and the Asiatic and Egyptian sources to the southward and eastward.

Etruscan jewelry was mainly of eclectic types combining, or copying, models of Egyptian or Assyrian origin, transmitted in a modified form by the Phœnicians and by the early Greeks. It was evidently through the Etruscans that the art was brought to the Romans. However, in spite of the fact that the Etruscans were essentially copyists, they evolved many beautiful decorative designs and so successfully developed their originals as to produce a clearly marked national jewelry.

Probably the earliest Greek jewels of elaborate workmanship are those unearthed by Schliemann at Mycenæ in 1876–88, and those brought to light by him a few years earlier in the Troad. Whatever we may think of his attribution of many of them to Homeric personages, there can be no doubt that they belong to the peoples and the localities celebrated in the Iliad and the Odyssey, and represent at its best the Greek art in jewelry of from 1600 to 1400 B.C., and a few centuries later. The so-called Minoan gems, specifically those of Crete, and by extension those of other Ægean islands (hence sometimes called "Island gems"), are less impressive, though they are of slightly earlier date, as are also those from Ilysus on the island of Rhodes. The latter jewels, now in the British Museum, comprise necklaces of irregularly-cut beads of amber, amethyst, agate or rock crystals, very rarely polished, and of polished carnelian beads. There are also many small bead-pendants of porcelain, some of them glazed.

The finest jewel found by Dr. Schliemann at Mycenæ is a gold brooch, having an elaborate centre boss of gold and silver plates worked into the form of a full-blown flower. Here were also unearthed several small earrings set with amethyst, as well as objects having inlays and beads of glass, amethyst or carnelian. Intaglio gems with gold settings were also found. Besides some curious earrings the Troad furnished plaques made of gold wire fashioned

* Morris Jastrow, 'The Civilization of Babylonia and Assyria' (Philadelphia, 1915, pp. 410–415).

† G. F. Kunz, 'The Curious Lore of Precious Stones,' (Philadelphia 1913, chap. viii, pp. 275–306).

into a kind of basket-work, and provided with a hook for attachment to the lobe of the ear; from the plaque depended little golden chains, on which in many cases small gold leaves were soldered as ornaments.

The best Greek jewelry dates from the 5th century before Christ, when Greek art of all kinds stood at the very highest point, and this branch of art continued to flourish among the Greeks for many centuries. The goldsmiths used their precious metals in a manner showing their appreciation of the fact that any material, however precious, was subordinate in the artist's mind to the design and workmanship that gave it life and grace. Of all forms of ornamentation, delicate filigree work was most highly favored, and for color, which was sparingly employed, reliance was rather placed upon enameling than upon precious stones. The designs were preferably of fruit or flower themes, or else of the more graceful of the animal forms. Virtually all the beautiful types of jewelry that had so far been evolved in the world known to them were laid under contribution by the Greek jewelers, and elaborated by them. But although splendid crowns, diadems, necklaces, bracelets, armlets, funeral wreaths, pins and rings were made, the greatest variety of design is perhaps exhibited in the wealth of earrings that still exist, although so many must have been destroyed or lost. So potent was the tendency to create beautiful forms and to enrich the decoration, that the size of the earrings was progressively increased, so that some of them greatly exceed the normal dimensions of this jewel, and must have been worn suspended from a bandeau, or some such support, bound on the head, as they are much too heavy to be sustained by the ear.

A most extraordinary assemblage of jewels belonging to the Persian period of the latter part of the 4th century B.C., was uncovered by M. Henry de Morgan near Susa, on 10 Feb. 1901, when he brought to light from six meters below the surface a bronze sarcophagus containing the skeleton of a woman. Heaped upon the breast of the skeleton, and strewn about the head and neck, was a mass of finely-wrought and artistic jewels, comprising: a gold torque weighing nearly a pound troy, decorated with lion's heads, the gold inlaid with turquoise and lapis-lazuli; bracelets of like design; several long and valuable stone-set necklaces, and a three-row pearl necklace, originally consisting of from 400 to 500 pearls, of which 238 were still in a fair state of preservation after a lapse of more than 22 centuries. The stones in the other necklaces comprised turquoise, lapis-lazuli, emerald, agate, various jaspers, red and blond carnelian, feldspar, jade (?), hyaline and milky quartz, amethyst of a pale violet hue, hematite, several marbles and breccia.*

The Scytho-Greek art of which so many examples have been found in the tumuli of the Crimea, more especially in those about Kertch, the ancient Panticapæum, settled by Greeks from Miletus in the 6th century B.C., represents in many of its specimens a Proto-Russian art. Others again are purely Greek and the rest are either the work of Greek artists or were executed by those whom they had instructed. The finest specimens were gathered together in the Kertch Museum at the Hermitage in Petrograd. The largest and richest of these tumuli is that known as Koul-Oba (Tartar for "ash-heap"), situated about four miles west of Kertch, and which when first excavated in 1831 had escaped the plundering to which so many other of the grave-mounds had been subjected. A great variety of jewels was found in this tomb, which must have been that of one of the richest kings of the region, and it has been approximately dated at about 300 B.C., at which time there flourished a Bosporian king named Pairisades. Within the tomb were found the moldering remains of a king, his queen, his servants and his horses, and upon the royal person, as well as around it, were the royal treasures. On the king's neck was a massive gold torque, the ends terminating in figures of Scythians on horseback, partly in green and blue enamel. Encircling his wrists and arms were penannular bracelets and armlets, wrought most beautifully of a massive cable of gold, the ends figuring sphinxes. Adorning the head of a woman, evidently belonging to the royal house, and who had been sepultured near-by, was a mitre-shaped diadem similar to that worn by the king; a gold torque with lion-forms at its ends was around her neck, and also a magnificent necklace in filigree work with medaillions in repoussé, and bearing many exquisitely delicate chainlets, on which hung as pendants a number of vase-shaped ornaments and others in granulated work resembling those met with in some of the finest Etruscan necklaces. Unfortunately, although this splendid sepulture had remained undisturbed for more than 20 centuries, it was carelessly guarded after it was opened, and golden ornaments to the weight of 120 pounds were stolen by the neighboring peasants, only about 15 pounds' weight of them being eventually recovered by the authorities.

Before the Christian era the Roman world was indebted to Greece and Etruria for all but the plainest jewelry forms, and in the palmy days of Imperial Rome, the expert jewelers were either Greeks themselves or had learned the art under Greek influence. The specifically Roman work was more massive, seeming to lay as great stress upon the intrinsic value of the precious metal used for a jewel, as upon its artistic character. At the same time the tendency to produce a striking effect was displayed in the free use of the more brilliantly-colored stones. Reds, yellows and blues were favored, and the contrast is emphasized by the addition of pearls, which enjoyed immense favor in Imperial Rome, when the pearl-fisheries of the East were laid under contribution to satisfy the luxurious tastes of the wealthy Romans. Drawing to herself as she did the finest fruits of the world's culture in every direction, Rome offered a rich variety of all known forms and designs of jewelry, this wonderful variety of borrowed or adapted types hiding her lack of originality. As the power and wealth of the state declined there was a progressive decline in the artistic merit of the ornamental objects produced, until toward the end the quality and value of the materials used for the jewels much surpassed the skill displayed in their workmanship and decoration.

* Consult G. F. Kunz, 'The Magic of Jewels and Charms' (Philadelphia 1915, pp. 323-325: pl. opp. p. 334).

The most remarkable examples of the Visigothic art of Spain that have been preserved for us are the gold crowns and coronets found in 1858 at the Fuente de Guarrazar, near Toledo, and now preserved at the Musée Cluny at Paris. Of these the one bearing the name of the Spanish-Gothic king Reccesvinthus (649–672) is the finest. It consists of a broad, massive gold band, about four inches high, the diameter being about eight inches; along the upper and lower edges runs a bordering of cloisonné incrusted with almandine garnets, and on the band are set in relief 30 Oriental sapphires of great beauty and of large size; alternating with the sapphires are 30 large pearls. From the band hang 24 golden chains, supporting as many letters in gold cloisonné, reading *Reccesvinthus rex offeret.* Each of these letters terminates with a gold pendant from which hangs a pearl and a pear-shaped sapphire. The crown is suspended by a quadruple chain of fine workmanship, which attaches it to a double fleuron of massive gold, enriched with 12 pendent sapphires. The cross which occupies the centre of the crown, and is attached to the fleuron by a long golden chain, is remarkable both for the richness of its material and the elegance of its form. It is of massive gold and is decorated with six beautiful sapphires and eight large pearls. The letters depending from the crown proclaim it to have been a votive offering, and the church to which it and the other crowns were dedicated was that of Sancta Maria in Sorbaceis, near Toledo.*

The two most striking types of jewelry characteristic of Celtic art are the crescent-shaped head ornaments and the massive gold torques. The former are made of thin plates of gold, usually with a simple decoration of parallel lines; they were probably attached near the ears by extensions on either side, so that the moon-shaped ornament could project upward above the head; but some of them may have been adapted to be worn suspended from the neck. An exceptionally rich example in the Dublin Museum has a weight of 16 ounces, giving a metal value of $330, as the gold is probably nearly if not quite pure. The gold torques are twisted lengths of the metal, turned to a circular form, so as to be worn around the neck; but many of the metal torques were worn passing over the shoulder and across the breast. Splendid gold *fibulæ,* or clasps, from prehistoric times, have also been found in Ireland; some of those of penannular form, with cup-shaped terminations, are very large and heavy, one in the Dublin Museum weighing as much as 33 ounces, the intrinsic value being $680. Armlets of gold were also made, as were plates of gold for adorning garments.

Anglo-Saxon jewelry was essentially of the same type as the Merovingian. The Anglo-Saxon jewelers possessed a strong individuality, so that the personal note is very pronounced in their work. The execution was artistic and the jeweler's sense of color in the choice of stone adornments was highly developed. As it was the custom to bury many ornaments with the dead, the sepultures, especially those of Kent, have afforded a bountiful harvest of fine jewels. Examples of almost all types have been unearthed. Bead necklaces are present in great variety, the materials ranging from glass up to amber and amethyst, while for the wealthy there were gold necklaces with more precious settings. Hairpins, with fantastic bird or animal forms, or with garnets, were much in favor. The well-known jewel of Alfred the Great, now in the Ashmolean Museum at Oxford, was found at Newton Park, three miles from Athelney, county of Somerset, where Alfred sought refuge during the Danish invasion in 878. It measures two inches in length, one and one-fifth inches in width and half an inch in thickness, and is considered to represent Anglo-Saxon jewelry at its very best. In shape it is oval, the front and the back being flat. On the obverse, beneath a plate of rock crystal, two-fifths of an inch thick, there is a plaque of semi-transparent cloisonné enamel, blue, white, green and brown, figuring a man's form. At the smaller end of the oval a prolongation is shaped like a boar's head. An Anglo-Saxon inscription in gold letters, along the edge of the jewel, reads: Aelfred mec heht gewyrcan (Alfred ordered me to be wrought). The gold is delicately fashioned in filigree and granular work; the enamel figure has been variously considered to represent Christ, Saint Neot, Saint Cuthbert, or Alfred himself. Of Anglo-Saxon gold rings, the most noteworthy are three, bearing respectively the names of Ahlstan, bishop of Sherbourne (824–67); of Ethelwulf, king of Wessex (836–58), the father of Alfred the Great, and of Ethelswith, queen of Murcia, Alfred's sister. Ethelswith's ring was tied to a dog's collar by the farmer who found it, and served this ignoble use for six months, until to his surprise and joy the man learned that it was of gold.

For the jewelry of the early Middle Ages we have to depend largely upon the treatise by the monk Theophilus (or Rugerus) called 'Schedula Diversarum Artium,' written about 1000 A.D., in which are quite fully described the technical processes of the goldsmiths and jewelers of the time. It evidently records the practices of Byzantine workers. Of Merovingian ornaments one of the most valuable finds was that made accidently at Tournai in 1653, when the regalia of Chilperic I (d. 481), the founder of the Merovingian dynasty, were brought to light. These included a bracelet, clasps, buckles and the royal signet of gold, engraved with the bust of the king; there were also some 300 golden bees, which had served for the adornment of a mantle. Each piece of the treasure is inlaid with thin slices of garnet, or red glass, held between gold partitions. From the succeeding Carolingian period fewer examples of jewelry have been preserved, because Charlemagne (742–814) discouraged the practice of burying jewels with the bodies of their late owners, lest by this means too great a quantity of the precious metals should be withdrawn from use. Nevertheless, many of Charlemagne's own treasures were placed with his body in his tomb at Aix-la-Chapelle. His pendent, gold reliquary, set with a large *cabochon*-cut sapphire in front, and a square-cut sapphire at the back, between which was inserted a small cross made from wood of the True Cross sent him by Haroun al-Raschid, was found when

* Consult 'The Book of the Pearl' by George Frederick Kunz and Charles Hugh Stevenson (New York 1908, pp. 415, 416, pl. opp. p. 416).

his tomb was opened in 1169. In 1804 Napoleon directed the custodians of the treasure in the cathedral at Aix-la-Chapelle to present this reliquary to Josephine on the occasion of a visit she made to Charlemagne's tomb. It passed into the hands of Hortense, Josephine's daughter, who gave it to her son, Napoleon III. What has become of it since his downfall and death is rather doubtful, but it is said to be in a private French collection.

With the Renaissance begins the revival of the jeweler's art in sympathy with that of all the other fine arts, and, as in most of these, it was Italy that moved in the vanguard, the Italian goldsmiths and jewelers leading the way here also. While the larger part of the early works has disappeared in the course of centuries, we are fortunate in having many exact representations of them in contemporary portraits, which are often very trustworthy witnesses, since a number of the 15th century painters began their careers as goldsmiths and jewelers, as, for example, Tommaso de Fimiguerra, Antonio Pollaiuolo, Botticelli, Domenico Guirlandajo and Francia. To these must be added, as great jewelers of the 15th and 16th centuries, Ambrogio Foppa (Caradosso) and Michelangelo di Viviano, the former of whom worked in Milan and Naples, and the latter in Florence, patronized by Lorenzo and Giuliano dei Medici. All these workers were, however, surpassed by the great master of the craft, Benvenuto Cellini (1500–71).

Among the innovations introduced in European jewelry by the Renaissance artists was a pendent jewel worn on the forehead, which may remind us of the favorite Hindu custom of wearing such an ornament, although this latter is often a jeweled disc, suspended from the large veil worn over the head and shoulders. The Renaissance ornament was known in France as the *ferronière,* from the famous Louvre portrait 'La Ferronière,' presumably by Leonardo da Vinci and formerly reputed to be that of one of the latest flames of François I, the beautiful wife of an ironmonger. The face depicited is, however, in all probability that of Lucrezia Crivelli, a mistress of Ludovico Sforza, "Il Moro," Duke of Milan.

As might be inferred from a contemplation of the paintings of the period, the jewelers indulged in a rich use of color, both in precious stones and in enameling, and these colors were so artistically blended and so wonderfully combined with the most delicately beautiful goldwork that the result was an object in which the value of the materials was exceeded by the art exercised in its production. It is noteworthy that the diamond, so greatly favored in later times, was at this period less prized than the emerald and the ruby. This appears in the scale of values for the four precious stones given by Cellini in 1568, although he places the sapphire far down the scale. On faultless, one-carat stones he sets these prices: ruby, 800 gold crowns; emerald, 400; diamond, 100, and sapphire but 10 crowns. The stones were usually table-cut, and in many cases the elaborate enameling of the jewel almost hid the gold substratum, except where it was left free to figure some details of the decoration.

French jewelry of the 16th century is illustrated by a large number of designs of the highest artistic merit. Among the foremost of those designers whose ideas are skilfully worked out, either by themselves or by highly-trained goldsmiths, may be mentioned Jacques Androuet Ducereau (c. 1510–c. 1585), Étienne Delaune (1518–95) and Pierre Woeriot of Lorraine (1532–aft. 1589). Of course their art owed much to the stimulus given by Cellini's activity in France under François I, and the fondness for jewels increased greatly under the last Valois kings, the contemporary chroniclers giving graphic descriptions of many costly ones possessing extraordinary beauty. In Spain great favor was bestowed upon elaborate reliquaries, and a characteristically Spanish decoration of these was with painted glass, termed in French of a later time *verre églomisé,* perhaps after a certain clever 18th century jeweler named Glomy. In this process the underside of a plate of glass, or of rock crystal, was covered with gold leaf; on this was traced the design, so that the part of the gold leaf to be left untouched was defined. Where it was removed, pigments were applied to bring out the design, and the proper degree of light and shade was attained by the application of varnishes of various thicknesses. Pendants were favorite ornaments in Spain, as were also bow-shaped jewels for breast ornaments. For the settings emeralds were very often used, a great variety of these stones, of various degrees of excellence, having been brought to Spain from Peru after the Spanish Conquest. The mines whence they came have not been traced, and they were perhaps already exhausted when the Spaniards invaded the land.

In Germany, great centres of the goldsmiths' art in the 16th century were Augsburg, Munich and Nuremberg. The Fuggers, the great bankers of Augsburg, did much to encourage the production of fine jewelry, indeed they combined dealing with precious stones and splendid jewels in a remarkably clever way with their banking business. Naturally the Italian influence was potent in these German cities, although the striking and original work of such masters as Albrecht Dürer and Hans Holbein, the former the son of a goldsmith, occupies a very high place in the history of jewelry. Holbein's numerous designs, made in England, preserve for us a record of his excellence in the art.

To the 17th century belongs the reign of the aigrette, consisting of clusters of precious stones set in enameled gold and mounted on movable stalks; another favorite jewel of this century was the bow or rosette to be worn on the breast, named a sévigné, after the world-famous letter writer, the Marquise de Sévigné. A splendid English jewel of the early part of this century is that known as the "Lyte Jewel," in the British Museum. It was a gift of James I to a Mr. Thomas Lyte, as a reward for the latter's zeal in drawing up a pedigree of the sovereign. An openwork cover has diamonds on the outside and brilliant enamel on the reverse, while on the back of the jewel is a white enameled plate on which is a design done in alternate lines of gold and of ruby enamel; the enamel bordering is of ruby-red and sapphire blue.

Toward the end of the 17th century, pendants are found made of gold only, and some

specimens of Portuguese work are remarkable for delicacy of execution; these are sometimes set with very small diamonds. Sprays of leaves and flowers and knots of ribbon are made in metal during the 17th century, and are thickly set with crystals — paste or real precious stones — particularly by Venetian, French and Portuguese, followed at a safe distance by English workmen. The best of these are by Giles Legare, and in the 18th century by his follower, Pierre Bourdon.

The search for new styles of ornamentation led at the end of the 17th century to the development of the variety of decoration and design to which the name «rococo» has been given, and this became gradually the dominant tendency in the first half of the 18th century. Among the masters of this style in France may be noted Jean Bourget and Pierre Bourdon, and in Italy Gian Battista Grondoni and Carlo Ciampali. More potent, however, was the activity of Melchior Dinglinger who, after working for a time at Augsburg, came to Dresden in 1702 at the invitation of Augustus II, surnamed «The Strong,» Elector of Saxony, and king of Poland as Augustus I, at whose court he was employed for 30 years as court jeweler, together with his brother, and with his son, Johann Melchior Dinglinger. The elector availed himself of their services in planning and enriching the famous Green Vaults in Dresden, wherein is assembled a most remarkable collection of the ornamental objects produced in this period. The discovery of the remains of Pompeii in 1755 gave a new direction to taste, and signaled the downfall of rococo and a revival of classic models. However, although much of the jewelry wrought by the goldsmiths of the first half of the 18th century is too extravagant and eccentric in style to please a truly refined artistic appreciation, many single objects testify to the skill and technical ability of those who produced them.

In France, during the Directory, the aim of the ladies of fashion was to resemble as much as possible the statues of the Greek goddesses, and this led to a rejection of elaborate jeweling. Indeed, many women discarded jewels almost entirely, and even the frail ladies popularly called *merveilleuses,* who wore too many, wished them to be of very simple design, so that they might not detract from the effect produced by perfection of physical form. In 1800, when the Egyptian campaign was in everyone's mind, the dandies regarded it as the height of good taste to wear turbans *à la Mameluck,* adorned with scarabs, sphinxes and obelisks. At this time and through the First Empire public taste was dominated in the matter of personal adornment by the painter David, and unfortunately his ideas in this respect were not on a level with his general artistic ability, for he was tyrannized over by the influence of classic tradition. The Restoration marked a decided reaction against the tendency to severity and rigidity generally characterizing the early part of the century as to jewelry. In sympathy with the later rise and triumph of Romanticism in literature and painting, jewelers sought to create works of art at once striking and graceful. The reaction against exclusively classic models brought about a revival of Gothic forms, which gained popular favor to a high degree. Still this was only an artificiality of another type, and it was reserved for the latter half of the 19th century to seek for inspiration directly in the realm of nature.

The jewelry of modern times has developed along the lines of eclecticism, the general trend being toward gracefulness and delicacy. In Italy the Castellanis in the first half of the 19th century renewed the use of the granulated gold ornamentation of the finest Etruscan jewelry, and somewhat later Lucien Falize, who flourished during the Second Empire in France, contributed much to the success of the modern movement. Whatever may be the inevitable errors resulting from the striving after novel effects, the tendency has been, on the whole, to maintain all that is best in the examples of classic as well as of Renaissance art, while welcoming such original forms as recommend themselves because of their tastefulness and beauty. Probably no single name has been so freely mentioned in connection with modern French jewelry as that of René Lalique, and the «Art Nouveau» style, despite some vagaries, has found favor both in Europe and America. Indeed, it may truly be said that the jeweler's art was never more international than it is to-day, and in no age has there been a greater variety of objects produced, or a higher average standard of excellence attained than at the present time.

For Chinese jewelry filigree work is highly favored, and the native jeweler is exceedingly expert and artistic in this branch of his art. Enameling is also greatly fancied in dark blues and pale blues. When precious stones are set they are usually cut rounded, *en cabochon,* not in facets, but in many cases imitation stones are used, prepared to the hue required by the enamel setting. Pearls are much in request, and they, as well as the stones that are employed, are drilled and attached by fine wire to the setting. Delicately wrought hairpins and earrings are greatly in vogue among Chinese ladies.

India has produced an immense variety of jewels of all kinds. Indeed the forms are so many and so beautiful, the designs produced so attractive, and the love of personal decoration so widespread among the peoples of India, that a great many inferior metals and imitation precious stones are used by the jewelers, although of course the jewels of the noble and wealthy are of gold and silver, adorned with costly genuine gems. Naturally, as India might be called the home of the pearl, this gem of the sea constitutes one of the most prized decorations of the richest jewels. Among the more specifically Hindu forms of personal adornment must be noted the ever-present bangle-bracelet, untold thousands of which have been produced. Glass and lac bangles are made in all parts of India, the choicest at Benares, Lucknow, Delhi and other towns of Upper India. Bracelets of dyed circles of shell are also in favor, and occasionally ivory bracelets are manufactured. Chains, armlets, crosses, etc., are part of the characteristic Indian jewelry and more especially national and attractive are the forehead ornaments, of painted glass for the poorer and of gold with a pendent gem for the richer.

In many Oriental countries there has been but little change in form or variety of workmanship for more than two millenniums. A close similarity of design may be remarked in the decoration of the Hindu work of to-day and in that of the Egyptians and Phœnicians many hundred years before the Christian era. The bracelets, earrings, rings, etc., are still frequently ornamented with little gold beads, with filigree work or with delicate chainwork. It has indeed been conjectured that India was really the source of these designs in view of the active commercial intercourse with Western lands dating from the campaigns of Alexander the Great.

The Aztecs of Mexico and the aboriginal peoples ruled over by the Incas in Peru had developed a considerable and complex civilization at the time of the Spanish Conquest in the early part of the 16th century, and their love of luxury and adornment, as well as the skill of their craftsmen, must have resulted in the production of many jewels. However, the reports of the Spanish chroniclers as to these objects are in many cases far from trustworthy, as for instance those concerning the "emerald" ornaments which had belonged to Montezuma, and were given by Cortés to his bride on his return to Spain in 1529. According to Gomara's recital, one of these had been carved by a Mexican lapidary into the form of a rose, another was shaped like a horn, a third had been fashioned as a fish with golden eyes, still another had been formed as a bell, having for the tongue a pearl, while the fifth was cut into a small cup, with foot of gold and having attached four little golden chains, each supporting a splendid pearl. These ornaments or jewels cannot have been of emerald, as this stone does not occur in Mexico, but were probably either of jade, or else of greenish torquoise, or some other of the green or greenish stones known to the ancient Mexicans, rather indiscriminately, as *chalchihuitl*. The five objects brought by Cortés are said to have been lost at sea in 1541, during the disastrous Spanish expedition against Algiers, in which he took part. As the richest of the Peruvian jewels were of gold, with or without precious stone settings, the avidity of the Spaniards for the precious metal caused them to melt down the ornaments without regard for their value as objects of art, or of historic interest. In modern times the graves of Peru have yielded some examples testifying to the skill of the early Peruvian goldsmiths, but undoubtedly the chief treasures of the Incas are irrecoverably lost.

Summarized briefly: (1) Savage tribes have used for their ornaments natural objects easily worked. (2) The cultured nations of antiquity have generally made their finest pieces of personal ornament of gold. (3) During the period of the Renaissance gold and silver, colored precious stones and vitreous enamels were very largely used. (4) During the 19th century the diamond particularly claimed the attention of jewelers, and the 20th century has been marked by a strong preference for platinum in settings, especially for diamonds. See DIAMOND; GEMS, ENGRAVING OF; PEARL; PRECIOUS STONES, etc.

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GEORGE F. KUNZ.

JEWELRY TRADE, The. The making of jewelry is one of the oldest trades of which the American historian can find record, for while the manufacture of such articles of adornment occupied a position of little commercial importance until several years after the settlement of this country by the colonists, the fact remains that jewelry was made by the native Indians many years before the first Europeans set foot upon American soil.

Prim and precise as the Puritans are supposed to have been, it is a mistake to imagine that they were too primitive in their opinions to appreciate the advantages of a little jewelry in the adornment of their persons. Both the Dutch and the English brought such ornaments with them to the new world, and one's personal attire was considered incomplete without the buckles, brooches and rings which were in vogue at that time. As the natural result gold and silver smithing was one of the first industries to be established in the colonies, and every large town had its smiths who produced the most popular articles of jewelry, as well as certain kinds of trinkets for the Indians, medals, snuff-boxes, etc.

One of the most important products of the early silversmith's art was the making of elaborate boxes from rare woods, or, sometimes, shell, inlaid with gold or silver. Snuff-boxes were manufactured in this way, while other boxes were made to contain the parchments which conferred the freedom of the city upon distinguished guests. Sometimes these boxes were made entirely of silver and were lined with gold. Occasionally the metal was gold, studded with precious stones. It was such a box as this in which the people of New York presented the "freedom" to Alexander Hamilton, after his elaborate defense of the liberties of the press in New York, in 1784; while similar boxes were later conferred upon Lafayette, Washington and General Scott. The making of such boxes and other ornamental insignia conferred upon distinguished men represents but one of the branches of the art of the smith, for there were so many demands made upon the craft that its ranks were constantly extending. In

1788, when the adoption of the Federal Constitution was celebrated in Philadelphia, there were no less than 35 goldsmiths and jewelers in the procession, while, more than 20 years before, it had been the profuse display of jewelry, silverware, etc., in the homes of the prominent New Yorkers that had incited Townshend to introduce the historic bill known as the "Stamp Act," which was undoubtedly the entering wedge in the struggle which finally separated the colonists and the Crown. At this period in the history of the nation the colonies that could boast of the richest inhabitants, and which could, therefore, afford to spend the greatest amount of money for jewelry and other articles of personal adornment, were South Carolina, Virginia, Maryland, New York, Pennsylvania and Massachusetts.

When compared to the facilities afforded to jewelers at the present day the tools of the old-time silversmiths were crude enough. The only noticeable difference between them and those used by workers in other metals was in their size, a factor which fitted them for finer work. The extreme tenuity and the lack of brittleness of gold and silver gave room for the exhibition of great ingenuity on the part of the artist who aspired to forget the ordinary patterns in the creation of more fanciful designs, while the attainment of the polished, or burnished, surface made a more tender treatment imperative. In the beginning of the century the art of frosting gold, like that of satin-finishing silver, was unknown. Gold and silver both came from the workshop with a glittering surface, and such ornamental and decorative work as may then have been attempted was either crude enameling, applied work or engraving. Later, of course, came all the new processes by means of which the precious metals have been used conjointly with other metals, or with wood, mother-of-pearl, glass, porcelain, pearls and gems.

In those days everybody who engaged in the industry of jewelry-making learned his trade so thoroughly and in such an old-fashioned manner that it was impossible to draw the close distinctions between the several different but associated occupations that are so clearly drawn to-day. At that time, to say that a man was a "jeweler" indicated that he was a goldsmith and silversmith, a watchmaker and clockmaker and a maker of fine mechanical instruments, for each of these branches involved a knowledge of the others. At the same time the trade was thoroughly a mechanical one, and any attempt to realize a higher ideal in the making of jewelry and other ornaments was most unusual. Instead of "wasting his time" over such inventions the artisan devoted all the hours of labor to such work as might be assigned to him, even dividing his time and skill between his own and kindred trades. To a similar degree the seller of such goods was more frequently a workman than a dealer. While a merchant in the strict sense of the word, he was usually a person who could take his place at the bench if necessity required, and who owed his success as a salesman to his knowledge of the various kinds of metal and fancy work for the adornment of the person. Gradually, as the demand for such goods increased, the more progressive of these merchants began to manufacture the simple articles which they sold, although it was some time before this branch of the industry had extended beyond the making of spoons, forks, rings and similar small pieces.

The first American manufactory of jewels is said to have been that established in Newark, N. J., in 1790, by Mr. E. Hinsdale, who died 20 years later, and was succeeded by his partner Mr. Taylor. The New York of 1820 could boast of but two manufacturing jewelers, Mr. G. F. Downing and a Frenchman by the name of La Guerre. The revolutionary hero, Paul Revere (1735–1818) was originally trained as a goldsmith and silversmith, and he practised his art in Boston before the Revolution. The *Knoxville Gazette* of 20 Oct. 1792 contains the advertisement of a local goldsmith and jeweler, who declares that he also makes rifles in the neatest and most approved fashion.

From the earliest days in the history of the jewelry trade, Providence, R. I., has been one of the great centres of this industry. It was shortly after the close of the Revolutionary War that Messrs. Sanders and Pitman and Cyril Dodge began to make silverware in that city. As early as 1805 there were no less than four establishments located there. They were operated by Nehemiah Dodge, John C. Jenckes, Ezekiel Burr, and Pitman and Dorrance, and their product, to make which they employed about 30 men, included silver spoons, gold beads and the simplest designs in finger rings. A few years later some of these manufacturers began to turn their attention to cheap jewelry in which silver and other alloys were used with a small fraction of gold. These included many small articles like breast-pins, ear-rings, key-rings, sleeve-buttons, etc., as well as some large articles which were plated by the hammering process. The first jewelry establishment at Attleboro, Mass., a town which has continued to hold a prominent place in the trade, was opened about 1805, while the establishment of the business in Newark, N. J., by the firm of Hinsdale and Taylor dates from about the same time. Philadelphia also became identified with the early jewelry interests. The firm of Bailey and Company, a house which is still conducting business, although under another name, was one of the first manufacturers in that city, and its trade with the West and South soon became so extensive that the concern became known as one of the most prosperous in the business.

Maiden Lane, New York, did not become the centre of the American jewelry trade until about 1830. The demand for jewelry inspired new ideas in manufacture, and, as much of the desire for novelties originated in New York, that city naturally became the market for the introduction of such products. In the New York *Mercantile Register* for 1848–49 one may find the advertisements of the following houses, which were then prominent manufacturers of jewelry, watches and silverware: Ball, Tompkins and Black (late Marquand and Company), 247 Broadway; Allcock and Allen, 341 Broadway; Gale and Hayden, 116 Fulton street; Tiffany, Young and Ellis, founded in 1837, Charles L. Tiffany, founder, the forerunner of Tiffany & Co., 271 Broadway; Wood and Hughes, 142 Fulton street; Samuel W. Benedict, 5 Wall street; George C. Allen, 51 Wall street; Squire and Brother, 92 Fulton street and 182 Bowery. Some of these

houses have since gone out of existence; only one now retains its original name, but three are still conducted under firm names which retain some portion of the early title.

Although great advances have been made in every branch of American art there is no particular in which it is more pronounced than in the metal work which is so conspicuous a part of the art of the gold and silver smiths, and the fact that the American product is now regarded as superior to that of any other country of the world is not only due to our knowledge of the art in itself, but is largely the result of our wider knowledge of the articles into whose manufacture good taste enters. To-day the designers employed by the great gold and silver smiths of America are not only men of refinement and liberal education, but they are so truly artists, in the best sense of the word, that they could, if required, draw or model from life, or paint in oils or water-colors. It is largely due to the efforts of such men that so much advance has been made in the making of ornamental gold and silver ware during the past half century, a progress which is indicated by our exhibitions of such articles as loving-cups, vases and presentation pieces, among which one may mention the gold medals, valued at $1,000 and $500, which were presented by the State of New York to Dr. E. K. Kane and Commander H. S. Hartstein, the Arctic explorers, in 1858; the silver vase made in honor of William Cullen Bryant, now a part of the exhibit at the Metropolitan Museum of Art, and the several testimonials presented to Cyrus Field, upon the completion of the trans-atlantic cable, in 1866. Among the other conspicuous specimens of this art are the silver service which was presented to the arbitrators of the Alabama Claims, in 1873, the silver centrepiece duplicating the statue, "Liberty Enlightening the World," which was presented to August Bartholdi, in 1886; the elaborate testimonial presented to William Ewart Gladstone, in 1877; the Edwin Booth loving-cup, and the many yachting trophies that have been manufactured on the occasion of international and other important regattas.

The discovery of gold in California, in 1848, naturally gave a great impetus to the manufacturing jewelry industry, for it gave assurance of an ample supply of metal needed for all purposes without the cost of importation, and if, at that time, we were lacking in knowledge as to the various forms in which the art of the smiths had been developed, it needed but such expositions as those at London and Paris to perfect our education in that respect. With such secrets revealed to us, however, it took but a comparatively short time for us to acquire the inventions in machinery and tools necessary to the reduction of the cost of production, and it is largely due to our success along these lines that we have been able to lead the nations of the world in this branch of the fine arts.

The process of electro-metallurgy was introduced about 1860, and since that time all kinds of goods in which plating has been employed have been made by this method, the centres of production being located chiefly throughout Connecticut, although there are other large plants at Newark, N. J., and Providence, R. I. Speaking from a strictly commercial point of view it is almost impossible to overestimate the value of this process, for it has brought within the reach of people of limited means an attractive line of tableware and other articles of utility that are now deemed indispensable in every household. If not as artistic and as highly finished as solid silverware they are extremely serviceable and there can be no question but that the better grades of such goods possess considerable artistic merit. In fact, for a time at least, the silver-plated ware encroached upon the province of solid silver, but during more recent years the low valuation of silver bullion, and the mechanical inventions which have further reduced the cost of production, have tended to reverse the tables.

The production of watches is so closely related to the jewelry trade that some reference must be made to it in any review of that industry. It was but a comparatively short time ago that all watches were imported, whereas to-day we have progressed so far it is only some very small watches for ladies' use and some particularly complicated chronographs that are now obtained in Europe. All others are made in this country, the industry being largely centred in New Jersey, Massachusetts and Illinois. In its consumption of diamonds and other precious stones America will also compare favorably with other nations, New York being the largest market for such gems in the world. Although it was but a few years ago that the art of diamond cutting and polishing was established in the United States, our wise tariff regulations have given such an impetus to this branch of the trade that some of the most expert cutters from Holland have now located in this country.

So far as statistics go we have but little material concerning the early history of the jewelry industry. We know that, in 1812, the value of the Providence product was but $100,000, and that, as late as 1860, the returns from all parts of the country were small as compared to those of the present day. In that year, for example, the jewelers and watchmakers of Philadelphia produced but $691,430 worth; the silverware manufacturers, $516,000 worth, and the makers of watch-cases and chains, $1,714,800. The production of gold chains and jewelry at New York was $2,497,761; of gold watch-cases, $337,690, and of silverware, $1,250,695. In Newark, the total product was $1,341,000, while Providence produced $2,251,382 in jewelry and $490,000 in silverware. The following census statistics, covering the years from 1880 to 1905, indicate the great advances which have since been made in the trade:

	1880	1890	1900
Establishments	739	783	851
Capital	$11,431,164	$22,246,508	$27,872,000
Employees	12,697	13,880	20,468
Wages	$6,441,688	$8,038,327	$10,644,000
Value of product	$22,201,621	$34,761,458	$46,129,000

	1905	1910	1915
Establishments	1,023	1,537	1,914
Capital	$39,678,956	$63,811,000	$72,404,000
Employees	22,080	30,347	28,289
Wages	$12,593,000	$18,358,000	$18,302,000
Value of product	$53,225,000	$80,350,000	$81,006,000

Unfortunately, however, such statistics cannot indicate what great things have been accomplished from an artistic standpoint, for the time has now come when the American jeweler,

instead of going to Europe for his ideas and models, leads the best European producers in both correctness and originality of designs and workmanship.

The following figures are given by the census bureau as to the value of the jewelry product in the four cities producing the largest quantity:

	Total value of product		Percentage of total in the United States	
	1909	1914	1909	1914
Providence, R. I.	$20,166,003	$20,933,990	25.1	25.8
New York, N. Y.	19,236,368	20,467,868	23.9	25.3
Newark, N. J.	13,152,340	11,215,214	16.4	13.8
Attleboro, Mass.	7,396,558	8,353,935	9.2	10.3

The four leading States show the following figures of product:

	1909	1914	1909	1914
New York	$20,362,620	$21,810,245	25.3	26.9
Rhode Island	20,685,100	21,522,251	25.7	26.6
Massachusetts	15,210,738	14,175,857	18.9	17.5
New Jersey	13,272,004	11,347,455	16.5	14.0

In 1914, Chicago produced jewelry to the value of $3,135,945, being 3.84 per cent of the total product in the United States. The entire State of Illinois produced $3,264,465 worth of jewelry.

The reports regarding two of the leading centres of jewelry production, Attleboro and North Attleboro, Mass., for 1913 and 1917, show the slightly unfavorable effect of war conditions upon this industry:

	Attleboro		North Attleboro	
	1913	1917	1913	1917
Establishments	81	64	37	34
Capital	$8,581,425	$8,553,611	$4,235,937	$3,993,372
Employees	3,931	2,871	1,875	1,516
Wages	$2,536,658	$2,166,661	$1,249,397	$1,161,109
Value of product	$9,364,159	$11,308,913	$3,968,810	$4,259,834

The increase in value of product was probably due to the higher prices realized.

GEORGE F. KUNZ.

JEWETT, Charles Coffin, American librarian: b. Lebanon, Me., 12 Aug. 1816; d. Braintree, Mass., 9 Jan. 1868. He was graduated at Brown University in 1835 and from the Andover Theological Seminary in 1840. He was librarian at Andover while studying there and prepared a catalogue of the library. He was appointed librarian at Brown University in 1841 and professor of modern languages there in 1843. He was librarian of the Smithsonian Institute at Washington in 1848–58, and thereafter until his death was superintendent of the Boston Library. His work in rearranging and cataloguing the library at Brown University attracted wide attention, the merits of his system being recognized in Europe as well as in the United States; and he established in the new library at Boston one of the first library card catalogues. His work was largely pioneer in modern library method and his system has served as a model in both United States and Canada. His writings on the subject of library economy are of importance. Author of 'Facts and Considerations Relative to Duties on Books' (1846); 'On the Construction of Catalogues of Libraries and their Publication by Means of Separate Stereotyped Titles, with Rules and Examples' (1852); 'Notices of Public Libraries of the United States' (1854).

JEWETT, Sarah Orne, American novelist and writer of short stories: b. South Berwick, Me., 3 Sept. 1849; d. 1909. She was educated at Berwick Academy and became a contributor to the *Atlantic Monthly* in 1869, in which periodical the larger part of her work appeared. Her usual theme was the New England character seen from its most attractive side, its gentler aspects given greater prominence and its harsher ones not unduly emphasized. Her works include 'Deephaven' (1877); 'Play Days' (1878); 'Old Friends and New' (1879); 'Country By-Ways' (1881); 'The Mate of the Daylight, and Friends Ashore' (1883); 'A Country Doctor,' a novel (1884); 'A Marsh Island,' a novel (1885); 'A White Heron and Other Stories' (1886); 'The Story of the Normans,' an historical work (1887); 'The King of Folly Island, and Other People' (1888); 'Betty Leicester' (1889); 'Strangers and Wayfarers' (1890); 'Tales of New England' (1890); 'A Native of Winby, and Other Tales' (1893); 'The Life of Nancy' (1895); 'The Country of the Pointed Firs' (1896); 'The Queen's Twin and Other Stories' (1899); 'Betty Leicester's Christmas' (1899); 'The Tory Lover' (1901). Consult her 'Letters,' edited by A. Fields (Boston 1911), and Thompson, C. M., 'The Art of Miss Jewett' (in *The Atlantic Monthly,* Vol. XCIV, Boston 1904).

JEWFISH, a huge Californian game-fish (*Stereolepis gigas*) of the sea-bass family (*Serranidæ*). It has a single dorsal fin, the soft part of which is shorter than the spinous portion, and is brown with black blotches and becomes much darker with age. Among the dense growth of kelp in moderately deep water along the coast of southern California the jewfish finds a congenial home. Belonging to a family of game-fishes and reaching a weight of 300 to 500 pounds, it has long been a favorite object of sport for ambitious anglers.

Two other fishes of the same family but more closely related to the groupers are known as the Florida or black jewfish (*Garrupa nigrita*) and the spotted jewfish (*Promicrops guttatus*). The former ranges from Florida to Brazil, and the latter widely through the warm parts of both Atlantic and Pacific oceans. The black jewfish is quite common about the coral reefs, in the caverns of which it lurks. Although not especially gamy, its enormous size and weight, sometimes reaching even 1,000 pounds, have induced a few anglers to essay its capture with rod and reel. It is easily distinguished from the Californian jewfish by its greater robustness, strong canine teeth and rounded caudal fin. Consult Jordan and Evermann, 'American Food and Game Fishes' (1903); Holder, 'Big Game Fishes of the United States' (New York 1903).

JEWISH CALENDAR. The Jews date their era from the Creation, which according to their tradition was 3760–61 years before the Christian era. The Jewish year is a lunar year and consists of 12 months with an additional one for leap year. The months have alternately 29 and 30 days, the 1st and 30th days being called New-moon. Each cycle of 19 years has 7 leap years, the 3d, 6th, 8th, 11th, 14th, 17th and 19th. The spring months are called Nisan (in which the Passover is celebrated). Iyar, Sivan; summer includes Tammuz, Ab, Elul; autumn, Tishri,

Heshvan, Kislev; and winter Tebeth, Shebat, Adar, with 2d Adar for leap year. The civil year began with the month of Nisan; the religious with Tishri. Rules for the computation of the calendar were issued, after various methods had been employed in earlier centuries, by Hillel II (330–365). The date usually assigned by Jewish writers to the year when Hillel fixed the calendar is 670 of the Seleucidan era, or 4119 A.M., or 359 of the Christian era. Consult 'Jewish Encyclopedia' (Vol. III, New York 1912).

JEWISH CHARITIES. See JEWS AND JUDAISM.

JEWISH CHAUTAUQUA. See CHAUTAUQUA, JEWISH.

JEWISH EXCHEQUER, a special division of the Court of Exchequer of England (1200–90) which dealt with lawsuits between Jew and Christian, chiefly in reference to debts due the former, and recorded the taxes imposed on the Jews. The fact that it was found necessary to have a centre for Jewish business indicates the prominence in trade and finance of the Jews in England from the reign of Henry II to the period of their expulsion (1290). The court did not long survive their departure. Many important data from its records have been jointly published by the Selden Society and the Jewish Historical Society of England.

JEWISH FRATERNITIES. While societies for mutual benefit exist in large numbers among the Jews in every land, in the United States the fraternities or orders have acquired special popularity, and promote not alone Jewish solidarity but aid in maintaining many charitable institutions. These organizations as a class give pecuniary benefits in case of illness, and death-endowments, which latter insurance feature is now being made optional. The oldest and most influential is the Order of Benai Berith ("Sons of the Covenant"), formed 60 years ago, and having a membership of 35,000. Its 330 lodges extend over the entire country, and it has 13 lodges in Algeria, Bulgaria, Egypt, Turkey and Palestine, 42 in Germany, 16 in Rumania and 10 in Austria. It supports orphan asylums in Cleveland, Ohio, Atlanta, Ga., San Francisco, Cal., a home for the aged at Yonkers, N. Y., a free library in New York, while it cooperates with an orphan home in New Orleans, a technical school in Philadelphia and a hospital for consumptives in Denver, Colo. The next leading order is the Free Sons of Israel, founded in 1849, with 97 lodges and 9,810 members. The Free Sons of Benjamin (1879) has 192 lodges, 14,088 male and 1,361 female members. The Berith Abraham (1859) has 365 lodges and 70,000 members. The I. O. Berith Abraham, with 302 lodges and 56,949 members, was founded in 1887. The Ahavas Israel Order (1890) counts 124 lodges. In addition there are seven other fraternities which have been recently started. The Order of Kesher Shel Barzel, founded a home for the aged at Cleveland. Special efforts are now being made by the Benai Berith to institute lodges among the Russian and Rumanian immigrants.

JEWISH NATIONAL ORGANIZATIONS IN THE UNITED STATES. With the rapid increase in recent decades of the Jewish population, due chiefly to enforced emigration from parts of Europe where anti-Jewish legislation and unfavorable economic conditions have long prevailed, Jewish communities have markedly developed in numbers and influence with the general growth of American cities, large and small. Hence the more urgent need of religious, educational and social organizations to cement more firmly scattered elements and create greater attachment to their traditions. Such societies, too, ensure efficiency in the education of the young, in the relief of the poor; and in any co-operation with similar foreign organizations in times of danger and distress. Their activity is not exceptional, but is no less true practically of all religious or racial elements. To mention concisely the character and work of the most important Jewish national organizations, the various fraternities are powerful factors in Jewish solidarity. The oldest and most influential, the I. O. B. B., had its 10th quinquennial convention in 1915, with 40,083 members, 442 lodges (in North America, Europe, Asia and Africa), 11 districts, and three hospitals in Denver, New Orleans and Hot Springs, Ark.; orphans' homes in New Orleans, Cleveland, Los Angeles, Erie, Pa.; Home for Aged in Yonkers, N. Y.; six Sabbath and immigrant schools, a club at San Francisco, and employment bureaus at Chicago and Pittsburgh, with other agencies. The I. O. Brith Abraham had its 32d annual convention in 1918; it has over 200,000 members and 760 lodges. The order Berith Abraham, founded in 1859, has 58,000 members and 365 lodges. The I. O. Berith Sholom had its 14th annual convention in 1918; it has 54,000 members and 371 lodges. Other orders are the Free Sons of Israel, 8,000 members, Free Sons of Judah, 25,000 members, Independent Western Star Order, 22,000 members, the I. O. of True Sisters, in its 68th year, about 6,000 members. The Jewish Chautauqua was formed in 1893, has 5,000 members, with correspondence school faculty and about 60 circles of students. Of imposing numbers are various labor organizations, all founded within recent years and extending over the entire country. The Jewish Socialist Federation has over 5,000 members — its purpose is "socialist and political agitation and organization of the Jewish working class," with about 90 branches. The Poale Zion Socialist Labor Party is 12 years old, has 3,800 members and 77 branches. The Socialist Territorialist Labor Party is 12 years old, has 3,200 members and 45 branches. In the field of religion is the Union of American Hebrew Congregation, organized 1893, composed in 1918 of over 200 congregations, the largest and most prominent in the country, with four departments, executive and financial, board of governors of the Hebrew Union College, board of delegates on civil rights, board of managers of synagogue and school extension. The Hebrew Union College has about 150 graduates in office, with a full staff of professors and a large body of students. In the same field of religion are the Union of Orthodox Jewish Congregation, founded in 1898, of limited numbers, the United Orthodox Rabbis, organized in 1907, 120 members, and the United Synagogue of America, founded in 1913, with a small but growing constituency. Zionistic in character are the Order Sons of Zion (1908), 4,000 members and 87 camps; the Socialist

Young Poale Zion (1915), 800 members and 19 branches; Young Judæa (1908), nearly 350 circles, to popularize Jewish education and spread Zionism among Jewish youth; the Mizrahi of America (1912), 4 bureaus, 100 organizations and 10,000 members, whose aim is "the land of Israel, for the people of Israel, guided by the law of Israel"; the Knights of Zion (1893), affiliated with the Federation of American Zionism. Hadassah is the women's Zionist society, founded 1912, nearly 30 chapters, affiliated with American Federation of Zionists. Its purpose in America is to foster Jewish ideals and make Zionist propaganda; in Palestine, to establish a system of district visiting nursing. The Federation of American Zionists, organized 1897, has 50,000 shekel payers and 156 societies, issues a magazine, leaflets, etc. The various Zionist Societies were merged in 1918 into one organization and a Jewish Congress was called in December to uphold Jewish rights abroad.

In the special line of aiding the immigrant the leading society, Hebrew Sheltering and Immigrant Aid, had its 29th annual convention in 1918. Its membership is over 76,000, and its purpose is to facilitate the lawful entry of Jewish immigrants, to provide temporary help, to discourage their settling in cities and encourage agricultural pursuits, to foster American ideals It has many affiliated societies, East and West. The Federation of Jewish Farmers (1909) has about 1,200 members and 45 societies, and promotes admirably the interests of its adherents. Effective societies to encourage agriculture are the Jewish Agricultural and Industrial Aid Society (1900), which maintains a bureau of information and farm labor office, helps Jewish farmers by counsel and loans, publishes the *Jewish Farmer*, supports itinerant agricultural lectures, grants free scholarships at agricultural colleges and it was the first to organize agricultural credit banks in America.

The Council of Jewish Women (1893), has developed to over 90 sections in nearly all the States, and many junior auxiliaries. Its work is conducted under committees of religion, religious schools, philanthropy, reciprocity, peace and arbitration, education and immigrant aid, the latter a national feature, while the sections engage in religious, benevolent and educational work. The National Federation of Temple Sisterhoods (1913) co-operates with the Union of American Hebrew Congregations, has over 180 constituent societies and aids in the synagogue's social and educational activities. The Council of Y. M. H. A. and similar societies (1913) promotes the education, religious and otherwise, of its 372 component parts and acts as organizer and adviser. The National Conference of Jewish Charities (1899) has a membership of nearly 200 societies from all sections, with regular conventions and other helpful features. The 11th annual session of Jewish Social workers at Pittsburgh in June 1917 had 300 delegates from every large city in the United States. It was there stated that the sum of $10,000,000 is spent yearly on Jewish organized charitable work. Among the subjects discussed were the needs of federation, social problems, child caring, art in settlements, mental hygiene, wife desertion and child abandonment. The National Farm School (1896), with over 230 graduates and 2,500 members, conducts an agricultural school and farms, at Doylestown, Bucks County, Pa., to promote scientific farming and a taste for agriculture among young people, particularly recent immigrants. The American Jewish Publication Society (1888), 15,000 members, distributes 50,000 volumes yearly, issuing works in Jewish history and literature for its readers, old and young. In 1917 it published a new translation of the Old Testament, and has planned a number of scholarly works, original and translated, in various departments. It is aided appreciably by a number of important endowments. The Intercollegiate Menorah Association (1913) has branches in various colleges, publishes a magazine, and aims to study and advance Jewish culture and ideals among college men and women. The American Jewish Historical Society (1892), 400 members, has issued 26 volumes. It maintains a collection of books, manuscripts and historical objects, and publishes volumes of Jewish historical interest from year to year. The American Jewish Committee (1906) with a comparatively small membership, but fairly representative of American Jewry, aims to prevent the infringement of Jewish civil and religious rights and to alleviate the consequences of persecution. Its functions are executive as well as advisory. It maintains a bureau of statistics, co-operates with other organizations at home and abroad in Jewish interests, takes a leading part in securing relief funds in emergencies, and issues publications from time to time bearing on its activities and related subjects. Consult the Year Books of the American Jewish Publication Society (Philadelphia 1900–18).

ABRAM S. ISAACS.

JEWISH SECTS. See SAMARITANS; PHARISEES; SADDUCEES; ESSENES; KARAITES (JEWS and JUDAISM); SABBATIANS.

JEWISH WAR, The (*περὶ τοῦ Ἰουδαϊκοῦ πολέμου*), a work of Flavius Josephus (b. c. 37; d. c. 96 A.D.) and the earliest of his writings which have been preserved. Its composition has been fixed in the latter years of the reign of Vespasian (69–79 A.D.). The Aramaic original has disappeared but the Greek version prepared by the author and some Greek scholars has survived. The author was a friend of the Romans in his later years and the object of 'The Jewish War' appears to have been an attempt to convince the Babylonian Jews of the invincibility of Roman arms and so deter them from revolt.

JEWISH WOMEN'S COUNCIL. Founded September 1893, this organization has been of marked value in awakening the interest of American Jewesses in the history and literature of their creed as well as in developing among them modern methods in educational and charitable work. Affiliating with the National Council of Women it has arrayed on a common platform its representatives. The Council has a large increasing membership. Besides studying Jewish history and literature, it carries on activities in philanthropy, with settlements, sewing and industrial schools, kindergartens, manual training school, gymnasiums, free baths, day nurseries, personal service groups, kitchen gardens, and other forms of useful activity, often open to all creeds. Co-operation is encouraged with the various other Jewish societies.

JEWS AND JUDAISM. Jews (from Heb. *Yĕhūdī*, man of Judah; Greek, *Ἰουδαῖοι*; Latin, *Judaei*) is the general name for the Semitic people which dwelt in Palestine from the earliest times. At first the name was confined to the members of the tribe of Judah, but was later extended to include all subjects of the kingdom of Judah, and, after the Babylonian captivity, to all who professed the Jewish religion, whether dwelling in Palestine or elsewhere throughout the world, provided they traced their origin to the tribes of Israel or were converts to the Jewish faith. In modern times the words Jew, Hebrew and Israelite are used indiscriminately of the same people. In succeeding pages the ethnology, history, language, literature, religious life, racial characteristics, etc., of this ancient people are treated under the following headings:

1. History and Principles of Judaism.
2. Jewish History.
3. The Hebrew Language.
4. Jewish Literature.
5. Jewish Philosophical Writers.
6. The Jew in Art, Science and Literature.
7. The Talmud.
8. The Masorah.
9. The Cabala.
10. The Karaites.
11. Anti-Semitism.
12. Zionism.
13. The Spirit of Rabbinic Legislation.
14. A Century of Emancipation.
15. The Synagogue.
16. Reform Judaism.
17. Education and the Jews.
18. Commerce and the Jews.
19. Food and Health Laws.
20. Jewish Charities.
21. Jews in America.
22. Present Status of the Jews throughout the World.
23. Alliance Israélite Universelle.

1. THE HISTORY AND PRINCIPLES OF JUDAISM. Judaism is the religion of the Hebrew people and of that portion of the same to-day known as Jews.* A religion which has been active in the world for so many centuries has naturally undergone modification as to details from age to age, both by growth from within and by adoption from without; but in essentials, Judaism has been characteristically staunch to its principles from its earliest days. The objects of this article is to outline, historically and concisely, the essentials, and briefly to mention the successive secondary points of accretion and modification. There are five ages of development to be distinguished.

I. The Patriarchal Age.— Judaism's fundamental conception is its earliest: the spiritual nature of the Deity and His consequent elevation above all human forms, methods and attributes. Though not clearly expressed in Genesis, this seems to be at bottom the lesson taught by the first Hebrew, Abraham, who, in the land of Canaan whither the divine call had summoned him from his home in Mesopotamia, built altars to the Living God and "called upon His name." These altars, built without images, taught the first principle of the spirituality of God, not to be represented by stock or stone. What Genesis omits, Jewish legend as recorded in Talmud and Midrash abundantly supplies, in the shape of tradition — no doubt with sufficient substratum of truth — as to who Abraham came to the conception of an invisible spiritual God, and how he preached his first convictions of the new truth by vigorous assault upon the idols of his father, an image-carver, and his neighbors. Most scholars see in the abortive "sacrifice of Isaac" (Gen. xxii) also an object-lesson of protest against the prevalent Canaanitish practice of human sacrifices, and especially of sacrifices of children. For the rest, we have, beyond the institution of Circumcision (Gen. xvii, 9) as protest, and possibly as physical aid against the current temptations to the immoralities which formed essential features of Canaanite idolatry, no trace of any code of observance connected with this early form of Judaism; no regulations as to ceremonies or food-laws (compare Gen. xviii, 8, in contradiction to Ex. xxiii, 19), unless indeed the Noachide prohibition of blood (Gen. ix, 4) is to be understood as current among this branch of Noah's descendants.

II. The Formative National Age.— With the advent of Moses and the contact with a much more highly developed religious culture, that of the Egyptians, a more elaborate Judaism came into being. A definite central shrine as a visible mark of God's presence among men (Ex. xxv, 8), but still without any central image or idol; and above all, the direct and formal acceptance by the Hebrews of a mission of enlightenment to the nations on behalf of "the Holy God," i.e., the Pure (Ex. xix, 5, 6), prepared the way for the adoption of a somewhat complex religious ritual — cast in the universally prevailing form of animal sacrifices and burnt offerings — together with a system of fasts, feasts and holy days, food-laws and health-laws, regulations political and agricultural, the whole forming a body of legislation, set down in the later books of the Pentateuch, admirably suited both to Israel's formative desert-sojourn and to the promised period of reoccupancy of the land of Canaan, the old home of the patriarchs. Of fundamental principles we note in Moses' age, the Eternity of God (Ehyeh asher Ehyeh "I shall be what I am," Ex. iii, 14); the Unity of God, in contraversion of the multitudinous, circumscribed and mutually antagonistic gods of Canaan and Egypt; the duty of uprooting the foul idolators and idolatries of the land of Canaan (Ex. xxiii, 24, 33; Deut. vii, 1, 6); the fact of the divine revelation of religious and ethical fundamentals (Deut. v, 22); the duty of serving God by acts of love and obedience to His revealed will (Deut. x, 12) and of training children in this practice (Deut. xi, 19); love of the neighbor — the "Golden Ethic"—(Lev. xix, 18); love of the foreigner, "for strangers were ye in the land of Egypt" (Ex. xxii, 21; Lev. xix, 34; Deut. x, 19), etc.

III. The Age of National Independence.— In spite of the loving warnings and wise safeguards of the Mosaic legislation, the Hebrews when restored to the occupancy of Canaan did not remain faithful to their local mission, but, to a greater or less degree, fraternized with heathen nations to the extent of adopting their idolatrous ways and principles. The prophets urged to higher conceptions, but not always successfully: a superficial ceremonialism seems to have been the highest point attained by the yet uncultured people. "To obey is better than sacrifice, and to harken than the fat of rams!"

*The Jews known to civilization to-day are the descendants of only the smaller kingdom of Judah, which consisted of the two tribes of Judah and Benjamin (with a sprinkling of priests and Levites of the tribe of Levi) and which, in the year 586 B. C. E. was transported to Babylon by Nebuchadnezzar and allowed to return to Palestine by Cyrus, king of Persia in 536. The members of the larger kingdom of Israel — the Ten Tribes — were deported in the year 720 by Salmanassar, king of Assyria, to unknown regions in the interior of Asia, and have since disappeared from history.

(1 Sam. xv, 22) was Samuel's reproof to Saul. It was not until David ascended the throne and brought to the national ceremonialism the element of reverential, spiritual elevation that Judaism at all approached the higher plane to which Moses inspired it. An elaborate central worship was planned and prepared for by David, with accessories of music and psalmody, and found its grand culmination in the stately temple of Solomon (B.C.E. 1018). But although the lofty religious spirit of David and the other psalmists found expression in this elaborate public ritual and exerted due influence over the popular mind, it needed all the energy and devotion of the prophets during the reigns of Solomon's successors in the twin-kingdoms into which the Hebrews then divided, to maintain these lofty ideals. The golden age of a spiritually exalted Judaism was surely reached when its preachers held up as the religion's highest teachings God's desire that men should be just and merciful, upright and generous, in preference to being ceremonially observant and ostentatiously pious (Isa. i, 12–17; Hos. v, 14, 15, 24; Micah vi, 6–9); God's willingness to extend forgiveness to repentant sinners (Isa. lv, 7; Jer. iii, 22, iv, 1, 2; Ezek. xviii, 21–32; Hos. xiv, 2); God's exalted spiritual nature, above all picture or comparison (Isa. xl, 18–25); the ineffable superiority of His thoughts and His ways to men's thoughts and ways (Isa. lv, 8, 9); and His intimate, interested knowledge and supervision of men's deeds (Ps. xciv, 7–11; Jer. xx, 12, xxiii, 24).

Political independence of other nations, however, might have had the evil result of suggesting that Israel's religion was the exclusive prerogative of Israel's people. Against this narrow conception, too, the prophets contended, with their teachings of the Fatherhood of God unto all men (Isa. xlv, 22–24; Jer. x, 6, 7; Zech. xiv, 9, 16; Mal. ii, 10) and with the description of a glorious epoch to come when "many nations should go up to the mountain of the Lord, to the house of the God of Jacob, to learn of His ways and to walk in His paths" (Micah iv, 1, 2). The strongest opposition to the growth and maintenance of all such ideals centred in the political ambitions of the people, and their frequent approximations — for political reasons fundamentally — to the paganism of one or other of their powerful neighbor-states; so that the history of the Hebrews under their own kings is a record of continual relapses into idolatry and heathen immorality, together with revulsions, now and again, back to purer Judaism. The most enduring and prominent contribution to Judaism traceable to this age of religious storm-and-stress is the belief in the coming of a Messiah ("anointed one, king"), who was to be a descendant of the royal house of David, and, as earthly monarch over a reunited Israel, would restore the pure worship of the spiritual One God of their fathers (Isa. xi, 1–10).

IV. The Age of Exile and Oppression.— When the above-mentioned political ambitions of the sister-kingdoms culminated in the destruction of both (Israel in 720 and Judah in 586), the population of the smaller one, Judah, deported to the plains of Babylon, found there leisure and inclination for a closer and more devoted attention to their religion, which resulted in the growth of a minute formalism of observance and petty precept, substantiated and elaborated upon the foundation of the Mosaic law. Its multitudinous details are collected in the Talmud (see article THE TALMUD in this section), and for many generations after the Jews' return to Palestine (536), the rabbis and sages of this epoch, both in Palestine and among those remaining in Babylonia, impressed their extremist piety upon the people; not altogether, however, without protest. Not that the lofty ideals of the prophets were ignored; to the contrary, they were treasured and still further developed in many a noble dictum and many a shining example. But the popular sentiment threw itself by preference into the religion of ceremonial and observance, and when, after a brief period of independence under the Asmoneans, the Jews succumbed to the military might of Rome in 70 C.E., this ceremonial bent proved the chief source of spiritualizing strength to teachers and people alike in the ensuing centuries of exile and oppression. A most elaborate accumulation of ritual observance grew up in their new homes, in North Africa, Spain, France, Germany and Poland, codified from time to time by such Talmudical experts as Isaac of Fez, usually called "alfazi" (died at Lucena 1103); Moses Maimonides, lived in Spain and Egypt, 1135–1204; Jacob ben Asher, died in Spain, before 1340, author of the 'Arba Turim' ('Four Rows'); Joseph Karo, lived in Spain and Turkey (1488–1575), author of the 'Shulchan Aruch' ('Arranged Table'). Obedience to these voluminous codes of ceremonial law constitutes to-day the chief difference between Jews of the "Orthodox" and "Reform" wings of modern Judaism, the former accepting, the latter rejecting, their binding force.

But while ceremonial formalism absorbed the religious thought and activities of the masses of the people in all their foreign homes, the growing culture of the ages appealed forcibly to the superior intellects of the Jews, especially in such countries as Spain (both Moorish and Christian), southern France, Italy, etc., and deep philosophical expositions became numerous (see article JEWISH PHILOSOPHICAL WRITERS). Their chief aim was still to maintain and fortify the doctrines of that spiritual sole God whom Abraham and Moses taught, not so much now in contravention of heathenism as in protest against the doctrines of the Christian Church. Perhaps as complete a presentation as is possible of Judaic tenets in this age may be found in the 'Credo' drawn up by Maimonides, 13 articles of belief, which to-day are printed in the Orthodox Hebrew prayerbook, both in a prose version (they were written originally in Arabic), and in a metrical form composed by Daniel ben Judah Dayyan in 1404, the "Yigdal." The modern school of Reform-Judaism adopts these in the main, likewise including the Yigdal in its ritual (consult Union Prayerbook, compiled by the Central Conference of American Rabbis, Cincinnati 1894, Vol. I, pp. 162–163; Vol. II, pp. 120–121). They include the unity, omniscience and incorporeality of God, the truth of the prophecy of Moses and the prophets, future reward and punishment, the coming of Messiah, immortality of the soul.

V. The Modern Age.— The divergences between the two wings of modern Judaism, the

«Orthodox» and the «Reform,» rarely trench upon fundamental principles, but are mainly concerned with the observance or non-observance of precepts and practices that have added themselves in the course of time and in various countries of sojourn, to the ritual features of the religion. The only serious approach to a fundamental difference is concerned rather with the political side of the religion, namely, the belief in a personal Messiah to come, a factor originating, as shown above, in the age when impending loss of national independence and the stress of national politics stirred the hope in superior minds for restoration of a Davidic kingship, with God's law of mercy and justice, coupled with complete reverence, more potently in sway than ever before. Reform Judaism deems that restored Jewish nationality in Palestine is by no means an essential feature of the Messianic age of universal peace and righteousness, and therefore looks coldly to-day upon such nationalistic endeavors as Zionism (see article ZIONISM in this section). It does not seem attracted even to the Jewish Territorial Organization (familiarly called the Ito, from its initials), originating in 1905, having for its object the establishment of a Jewish state outside of Palestine. It agrees with Orthodoxy in refusing to make propaganda for the dissemination of Jewish principles other than by the passive policy of example and their inherent truth. In religious practice it rejects the minutiæ of ceremonial observance, household and synagogal. Reform Judaism is represented to-day in the matter of seminary-instruction in America, by the Hebrew Union College at Cincinnati; in Germany by the Jewish Theological Seminary at Breslau, by the Hochschule (now Lehranstalt) für die Wissenschaft des Judenthums, at Berlin, and in Austria-Hungary by the Landes-Rabbiner Schule at Buda-Pest. Orthodox Judaism counts, among others, the following seminaries: The Paris Seminaire Israelite de France, the London Jews' College, the Berlin Rabbinical Seminary, the New York Jewish Theological Seminary, and the Rabbinical College of America.

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FREDERICK DE SOLA MENDES,
Rabbi and Author, West End Synagogue, New York City.

2. JEWISH HISTORY. I. Pre-Exilic Times.— Although the title «Jew» is not known until Israel's return from the Exile, 536 B.C. (Ezr. iv, 12), Jewish history precedes the Exile by 2,000 years. The progenitor was Abraham, who, hailing from Ur of the Chaldees, is known, not as a «Jew,» but as a «Hebrew» (Gen. xiv, 13). As patriarch of his tribe, he was succeeded by his son Isaac; Isaac, in turn, by Jacob, surnamed «Israel,» and Israel by his 12 sons, who, after the slavery of their descendants in Egypt, became the heads of 12 tribes, known collectively as «Israel» or «the Children of Israel» (Ex. i, 1). Among the 12 tribes, neither Levi, who was destined for the service of God, nor Joseph, who was supplanted by his two sons, Ephraim and Menasseh, is represented. With the conclusion of Egyptian servitude, the Children of Israel were formed into a nation by Moses, their liberator. Moses led Israel, by a circuitous route, through the desert, toward Canaan. Forty years were consumed in making that journey, during which time Israel's appointment as «a kingdom of priests and a holy nation» with the establishment of a theocracy as highest aim was made known; religious tenets, ethical precepts, hygienic laws and social principles were promulgated; a tabernacle, with an elaborate sacrificial cult, was established; countless hardships were endured; frequent rebellions were instituted and numerous battles were fought.

Upon his death, Moses was succeeded by Joshua, a warrior chieftain, who, crossing the river Jordan, and vanquishing many of the native tribes, divided Canaan, by lot, among the tribes, and set up the tabernacle at Shiloh. The natives who were not vanquished proved sources of annoyance to the invading Israelites, and often made certain portions of Israel tributary to them. This condition called for the «Judges» who, by means of battle, succeeded in regaining for the Israelites their independence. Of these there are 15 most celebrated, among whom are Deborah, Gideon, Samson and Samuel, also the first of the prophets, a class of men whose principal aim was to keep Israel free from the contaminating heathen influences of the natives, and loyal to the higher worship of the one God. It was in Samuel's days, about the middle of the 11th century B.C., that democratic Israel became a monarchy. Saul was made king. His throne did not pass over to his son, but to David, who had proved victor in many battles against the harassing

Philistines. Upon the close of David's life, replete with warfare, his son, Solomon, who became the architect of a powerful kingdom, succeeded him. He beautified Jerusalem, the capital, built the first temple, constructed palaces, extended commerce and made many alliances with foreign nations. Although his was a golden age, it was in his time that idolatry was introduced into Israel. Upon his death (977 B.C.) a revolt broke out. Solomon had taxed the people heavily, to further his many expensive ventures. The people wanted the taxes decreased. Rehaboam, his son and successor, refused to listen to the clamors of the people. Ten tribes seceded and formed an independent kingdom, called the "Kingdom of Israel," leaving to Rehaboam only Judah and Benjamin, termed the "Kingdom of Judah." Israel had 19 and Judah 20 kings. Jeraboam, the first king of Israel, desirous of weaning the tribes of their attachment to Jerusalem, the common sanctuary, introduced the calf worship in Dan and Bethel. Israel, through the example of its kings, went from bad to worse, until, in 719 B.C., Samaria, Israel's capital, was destroyed, and the people constituting the 10 tribes were deported to Assyria by Shalmanezer IV, to become lost forever. Judah, too, entered upon the downward path. With the exception of occasional and temporary reforms under Asa (954), Hezekiah (720) and Josiah (627), Judah was idolatrous, always reflecting the fetichism of surrounding nations. The exhortations of such prophets as Elijah, Elisha, Jonah, Amos, Joel, Hosea, Zechariah, Micah, Isaiah, Zephaniah, Jeremiah and others, were of no more avail with Judah than with Israel, so that in 586 B.C., Jerusalem was razed to the ground, the temple destroyed and the people taken captives to Babylonia by Nebuchadnezzar.

II. From Exile to Dispersion.— The captivity lasted 70 years. Many of the Judeans hoped for a return to their land and for a resurrected commonwealth. They met with encouragement at the hands of the prophets Ezekiel, the Babylonian Isaiah, and Haggai. In 538 B.C., Cyrus, king of Persia, taking Babylonia, permitted the Jews to return to Jerusalem, in order to rebuild it and erect a temple. Only a part took advantage of the privilege to join the first pilgrims, under Zerubabel. The building of the temple was interrupted, as a result of the charges brought against the Jews by the Samaritans, Assyrian settlers of Samaria. However, in 516 B.C., the Temple was completed. In 459, Ezra, a scribe well versed in the law, who was, in course of time, followed by Nehemiah, came to Jerusalem. Nehemiah regenerated Judah physically, and Ezra culturally. Ezra was responsible for the formation of the Great Assembly, the study of the law, the rejuvenation of the literary genius, and the beginnings of the synagogal service. With the invasion of Alexander the Great into Asia (332 B.C.), Jews came into contact with Greek thought, which did not leave them altogether unaffected. Judah had become tributary to Egypt, whither the Greek civilization was transplanted, and two parties, Hellenists and Hassidim arose: the Hellenists admitting philosophy as man's guide, and the Hassidim recognizing only the law of Moses (Torah).

While these two parties were in dispute, Syria gained control of Palestine, and, in course of time, aimed at the destruction of Israel, the confiscation of the Temple and the destruction of Israel's faith, under Antiochus Epiphanes (168 B.C.). Thus came into existence the Maccabees. They took up arms against Syria, regained the Temple and eventually won for the Jews national independence, so that when Judah allied itself with Rome (140 B.C.), it once more had a king in John Hyrcan (135 B.C.). It was at this time that Biblical literature, which had begun to thrive with the return of the Exile from Babylonia, flowered most luxuriantly. However, Jewish independence was not to endure very long. The Jews were divided by parties, such as the Pharisees, Sadducees and Essenes (qq.v.). The Idumæans were converted to Judaism. One of their number, Herod I, obtained control of the Jewish state and was proclaimed king by the Roman Senate (37 B.C.). In their political and religious hostilities, Rome was called in to act as arbiter and assumed the dictatorship. Rome, the friend, soon turned enemy. It tried to get possession of Jerusalem and succeeded in its undertaking under Titus (70 A.D.). After a long siege, the city was burned, the Temple destroyed and thousands of Jews were carried away captives to Rome.

III. From Exile to Close of Oriental Schools.— Many foresaw the doom of the Holy City. The law of Israel had grown to be more than the Bible, and Israel's life was no longer thought to be dependent upon the possession of Palestine. An attempt was therefore made to save the law and life. Rabbi Johanan ben Saccai requested of Rome,— and the request was granted — to be allowed to remove from Jerusalem to Jabneh, in order to establish there a school, whose purpose would be to keep intact the teachings which had grown up in the earlier schools of Palestine. Thousands of pupils followed the teacher and soon the Sanhedrin, the religious court of the Jews, was transplanted thither. Although Rome permitted Johanan to found a school in Jabneh, Rome did not look with favor on Israel's new lease on life. It interdicted the study of the law, the secret of Jewish preservation and seconded its interdictions by persecutions and massacres, among which the death of the 10 martyrs, participants in the Bar-Cochba revolution, during the reign of the Emperor Hadrian, was undoubtedly one of the most bloody (135 A.D.). Unable to enjoy the rest and peace on Palestinean soil, the Jews soon found their way to ever friendly Babylonia, where many of their brethren sojourned. The Rabbis, who had been forbidden to erect schools in the Holy Land, established them in Babylonia. It was in the very midst of the constantly shifting centre of Jewish gravity and the uninterrupted stream of persecution, that Rabbi Jehudah, a Palestinean rabbi (190), deemed it necessary to collect, in permanent, systematic form, all the civil, criminal, religious and ethical principles which the new surroundings had brought into existence, calling the name of this collection "Mishnah," which was studied and explained in all schools, so that with it as a foundation two works were eventually produced, the Palestinean Talmud (375) and the Babylonian Talmud (550); the two Talmuds containing the discussions of the schools on the teachings of the Mishnah. (See

article TALMUD in this section). Residence in Palestine was made more and more impossible for Jews. In Palestine, beginning with the Council of Nice (325), Jews were exposed eventually to the hostilities of the Church, as well as to those of imperial Rome; whereas on the other hand, they were granted fair treatment in Neo-Persian Babylonia. In Babylonia they had a political head in the "Exilarch", and religious authorities in the "Gaons" of the academies. It was in these schools that the Bible was given its present canonical form, that the vocalization of the Hebrew text of the scriptures was fixed, that the many Midrashim were created, that additions were made to the prayer-book, and that numerous ceremonies were established.

That the positions of honor held out to the Jews of Babylonia filled the more prominent among them with ambition goes without saying. Anan ben David (761) expected to be promoted to the Exilarchate, but was disappointed. Incensed by his disappointment, and later imprisoned for having himself proclaimed anti-Exilarch, he, as soon as released, assumed the aggressive toward the prevailing Jewish thought current of Babylonia, instituting a movement called "Karaism." (See article THE KARAITES in this section). In justice it must be confessed that the movement was beneficial as well as detrimental to the Jews of those times, for it helped to check their imagination which had often run riot in their understanding of scriptures. Rabbinism was recast, and in its recast form found an ardent champion in Saadia ben Joseph (892–942) who, though a native of Fayum in upper Egypt, attained to the Gaonate of Sora, because of his Biblical, Talmudical, and grammatical knowledge and his religio-philosophical genuis. As long as his school of Sora had at its head a man like Saadia, the wrangles between the Jewish scholars of Babylonia and the growing Mohammedan antagonism to Jews and Judiaism, both disintegrating influences of the Babylonian academic life, did not make themselves markedly felt; but when once Saadia was no more, the decline of the schools of the East was inevitable. To prevent the closing of the schools, four scholars (948), Shemarya ben Elchanon, Chushiel, Nathan ben Isaac Cohen and Moses ben Chanoch, were despatched to scattered Jewry, to collect funds for the maintenance of Sora. They embarked on the same vessel, which was captured by a Spanish-Arabic admiral, and thus became separated forever; Shemarya going to Alexandria, Chushiel to Cyrene, Nathan to Narbonne and Moses to Cordova. Thus was the last hope of Babylonian Jewry defeated and the Jews began to make history in European countries.

IV. From Close of Oriental Schools to Close of 16th Century.— Although Jewish history now takes us into European countries, Jews lived in Europe long before the middle of the 10th century. Already in the earliest centuries of the Common Era, Jews, who soon grew into fair-sized communities, contributing to the prosperity of the various governments, were found in all countries, in consequence of the Jewish dispersion. Welcomed upon their arrival wheresoever they settled, they did not anywhere continue to live long in the enjoyment of peace. Europe made suffering the badge of all their race. They were misunderstood and misrepresented; they were regarded unbelievers and infidels. Not only during the Crusades did they suffer, as for instance in Rouen, Treves, Speyer, Worms, Cologne, Ratisbon, Prague (1096), in South Germany and France (1147), in Toledo (1212), in Anjou and Poiton (1236), but also in times and amid conditions which held out peace to others. Time and time again edicts restricting them were unjustly promulgated, as, for example, by Pope Gregory VII (1078), by the government of France (1198), by the Council of Avignon (1209), by Pope Innocent III, instituting the "Jew Badge" (1215), by the Council of Zamora (1313), by Juan II (1412), by the Council of Basle (1434), by Eugenius IV (1442), by Paul IV (1555), and in Russia in 1881 and still later. Time and again they were crowded into Ghettos, as for example in Rome, Prague, Frankfort and the Russian Pale. Time and again their literature, especially the Talmud, because not understood, was either unjustly burned, as for instance in Paris (1242), in Cremona (1559), or publicly attacked, as by the Dominicans (1507), or forbidden to be studied, as by Pope Benedict XIII (1415). Time and again the Jews were unjustly accused of the use of Christian blood for ritualistic purposes, as in Blois (1171), all over Germany (1283), in South Germany (1431), in the case of Simon of Trent (1475), which brought a Jewish persecution in its train in Ratisbon, in Damascus (1840) and in Tiszla Eszla, Hungary (1882). Time and again they were unjustly imprisoned, as in England by King John (1210), and again in 1278. Time and time again they were unjustly banished from their homes, as from Granada (1066), from France (1254), from England (1290), a second time from France (1306), and a third time (1394), from Cologne (1426), from Spain (1492), from Portugal (1497), from Prague (1561), from the Papal States (1569), from Italian principalities (1597) and from Worms (1615). Time and again they were unjustly persecuted and massacred by the thousands, as in London (1189), in Germany all the way from the Rhine to Vienna (1190) and again in Germany in 1298 and frequently thereafter in France (1321), all over Europe on account of the "Black Death" (1348), in Spain (from 1391 to 1492), in Silesia and Poland (1453), in Portugal (1530), again in Poland (1648), and in Germany, Austria and Russia as late as our times, on account of anti-Semitic agitations.

That all of this suffering stunted the Jews physically is self-evident, and that it, to a certain extent, prevented the broadest spiritual unfolding, in accordance with the brighter light of their religious genius, is therefore not surprising. The spiritual offspring of persecution was that mysticism known as the Cabala (see article THE CABALA in this section), and the belief in such pseudo-Messiahs as Serene (720), David Alroy (1160), Abraham Abulafia (1279), Asher Lemmlein (1502), David Reubeni and Solomon Molko (1558), Isaac Luria (1569), Sabbatai Zevi (1665) and others. However, barring these vagaries, the Jews developed a phenomenal intellectual activity, not merely along religious, but along all lines of thought.

With the arrival of Moses ben Chanoch in Cordova (945) the Jews took an active part in

the development of far-famed Andalusia. Apart from the celebrated Spanish seats of learning they helped to create, they also cultivated a many-sided specific Jewish literature. Versed as the Spanish Jews became in Arabic lore, and acquainted as they were with the work done by the Moors in Arabic philology, they soon began to apply the science of philology to Hebrew grammar and lexicography. Biblical criticism found in them champions. Philosophy and poetry were cultivated among them by famous men. Simultaneous with the Jews in Spain, those of France also were intellectually active. The Jews of Italy, too, were bound to grow likewise. In Germany and Poland, the specific literature produced by the Jews covered, for the most part, the ritual, Biblical interpretation and legal codes.

V. From Settlement of Jews in Holland Until the Present Time.—Although the flowering of Spanish-Jewish life, which came to an end in the reign of Ferdinand and Isabella of Spain, through the intrigues of their chief inquisitor, Torquemada, in 1492, was noticeable in Italy and Turkey in consequence of the welcome these countries extended to the hapless fugitives, that flowering was most apparent in Holland. Holland had become the most ardent champion of the broadest liberty, from the time that it threw off the yoke of Philip II of Spain. Thither, therefore, countless Jews, more particularly the Marranos, who were obliged to profess Christianity outwardly and practice Judaism only secretly, found their way, and soon made of Amsterdam a second Cordova. Being unchecked and unhampered by restrictions of any kind, it was only natural that the Jews of Holland became, in due course of time, exponents of a comparative rationalism in religion, to the extremes of which as preached by Benedict Spinoza, the Amsterdam Rabbinate, Saul Levi Morteira and Isaac Aboab, objected. The Jews of Holland, never very numerous, contributed no little in defining the trend of Jewish history; and yet, however otherwise valuable their contribution to the happier and higher life of the Jews may have been, one event, for the occurrence of which Menasseh ben Israel is responsible, stands out in bold relief. That event is the readmission of Jews into England under Cromwell (1655), they having been forbidden to dwell there for several centuries. The rationalism of Holland Jewry may not have influenced Jewry immediately all over Europe, but it worked with telling subtlety and effected sure results the moment the Jews began to be treated with more justice than they had been previously accorded. Now a pseudo-Messiah like Berachyah may have deluded the people; now an enemy like Eisenmenger (1700) may have misrepresented them; and now Chassidism (an unnatural piety) may have claimed to be the ideal conduct for the Jew, as was the case at the time of Israel Baalshem (1750), the founder of the movement; still, it was a question of only a short time, how soon the bars hemming the Jews in from without and the bolts hemming them in from within would be broken.

The year 1729 witnessed the birth of Moses Mendelssohn (q.v.) in Dessau, Germany. Having gone from his native town to cultured Berlin, having learned the sciences, philosophy and ethics and having become acquainted with Lessing (q.v.), whose "Nathan the Wise" he became, he attempted to explain the Jew and his faith to the Jew himself and to the world, so as to prove the Jew's right to the privileges of citizenship. The first attempt he made in this direction was to translate the Pentateuch (1778) and other Biblical books into German for the Jews, in order to wean them of the jargon, which translation was soon followed by his 'Jerusalem' and 'Morgenstunden.' He was called upon to answer not only attacks made upon his people by non-Jews, but also those made upon him by his own people, to whom the jargon had become a sacred tongue and the narrow Ghetto life the natural Jewish life. Unwelcome as his good offices were in many quarters, they soon began to tell without and within Jewry, in France, Batavia, Westphalia, Hamburg and Mecklenburg. In the meantime, Jews were permitted to enter German gymnasia and universities. Leopold Zunz and Isaac Markus Jost availed themselves of the opportunity, with others, built on the foundation laid by Mendelssohn, and hence are the fathers of the movement which is known as the "Science of Judaism," and has made itself felt all over the world, more especially Europe and America. Although these men and their followers worked unceasingly to place the Jew, his faith and ideals before the world in their true light, prejudice and persecution against the Jews still continued to live. The year 1819 witnessed persecutions whose tocsin was the shout "Hep-Hep" (Hierosolyma est perdita, i.e., "Jerusalem is destroyed"). The Jew's rights had to be won by incessant fighting. The emancipation of the Jews of German states, won in 1848, required the constant defense of a Gabriel Riesser, Ferdinand Lasalle, Eduard Lasker and Karl Marx in Germany, of an Isaac Adolphe Crémieux in France, of a Moses Montefiore in England, of an Alliance Israelite Universelle in the Orient and of a Union of American Hebrew Congregations, with Isaac M. Wise as creator, in the United States. To-day the Jews live in almost all parts of the world. They number about 11,000,000, the greater part being in Russia, and 3,000,000 in the United States. Wheresoever sufficiently numerous, they worship in large and stately synagogues. Their mode of worship varies in degree of ceremonialism, ritualism and the language of prayer, though the Hebrew is heard in all synagogues. In every country they have one or more theological seminaries, the first of the modern type having been founded at Breslau in 1854. A movement which has, in recent years, become prominent on account of Russian persecutions, but has been variously interpreted by its several factions, is "Zionism," which primarily aimed to establish, for persecuted Jews, a legally assured home in Palestine. As a humanitarian movement, if feasible, it appeals to all Jews. As a national movement it has opponents as emphatic in their opposition, as are its champions emphatic in their propaganda. Though the Jew is justly called the "Wandering Jew," he is not any the less justly termed, because of his life, despite persecutions and massacre, the "Eternal Jew."

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WILLIAM ROSENAU,
Associate in Post Biblical Hebrew, Johns Hopkins University; and Rabbi of Congregation Cheb Shalom, Baltimore, Md.

3. THE HEBREW LANGUAGE. Origin and Name.— Hebrew is the language of the ancient Hebrew nation. It is a Semitic language, that is to say, one of the great group of languages spoken in antiquity and to a great extent in modern times also, in southwestern Asia and contiguous regions by the nations descended, according to the account given in Gen. x, 21–31, from Shem, the son of Noah.* The Semitic tongues are divided into four great divisions or branches, the South Semitic or Arabic, the Middle Semitic or Canaanitic, the North Semitic or Aramaic and the East Semitic or Assyrio-Babylonian. The Hebrew belongs to the second or Canaanitic branch and has, as its sister dialects, the Canaanitic tongues, the Phœnician of the coast cities and the Punic of Carthage and its colonies. The name Hebrew language does not appear to have been its original designation. In Isaiah xix, 18, it is called "the language of Canaan" and in 2 Kings xviii, 28, Isaiah xxxvi, 11, 13, Neh. xiii, 24, it is called "Judean" or "Jewish." † In the Talmud it is called "the language of the sanctuary" (Sanh. 21 b. et-alia). By modern writers it is called "the language of Eber" or "Hebrew." ‡

Old Testament Hebrew.— With the exception of parts of Daniel, Ezra and one verse in Jeremiah, Chap. x, vii, the entire Old Testament is written in Hebrew. Considering the long period of time over which the composition of the Biblical books extends one would naturally expect great variations in their linguistic and grammatical forms. As a matter of fact there is a most surprising uniformity and homogeneity. The Hebrew of the earliest is practically identical with that of the latest books. The probable reason of this is that in the Biblical writings we have the literary idiom, which is fixed, as distinguished from the spoken language, which undoubtedly varied greatly in different times and regions. The fact that the Biblical books were revered as sacred also undoubtedly contributed to this uniformity of diction. However, a progressive variation, due to historic influences, is clearly discernible also in the Biblical Hebrew. The language tends constantly to become Aramaized. The earlier writings are purest in their language, the later writings contain many Aramaic nouns, verbs and terms of expression. Such books as Ecclesiastes and the Song of Songs are closely approximate in their language to the Mishnah Hebrew. Job shows a strong Arabic influence.

Other Sources of Hebrew.— Outside of the Bible the ancient Hebrew is only preserved in some few inscriptions. These are chiefly the celebrated Mesa stone, an inscription found in 1880 near the Pool of Siloam at Jerusalem and the coins of the Maccabean princes and of the revolts against Vespasian and Hadrian.

Grammatical Structure.— The Hebrew, in its grammatical structure, exhibits in general the characteristics of the Semitic family of languages, which differs greatly from the Indo-Germanic, its most prominent neighbor. Its most striking characteristic is its root-system. All the parts of speech are derived from roots or word-stems which are almost invariably triliteral. Modifications, such as conjugation in verbs and declension in nouns, are indicated generally by internal or vowel changes. The verb has but two tenses, the uses of which vary in accordance with peculiar rules. The noun has only two genders, masculine and feminine, and no direct method of indicating case relations for which purpose pronominal prefixes are usually employed. Possessive pronouns and pronominal objects of the verbs are indicated by suffixes. Compound nouns are almost unknown, except in proper nouns. The syntax is extremely simple and direct co-ordination of clauses, without periodic construction, is the rule. These facts would seem to indicate poverty and lack of development in Hebraic expression. But it rather indicates directness of grasp of ideas which are presented with the picturesque clearness of word-photography, rather than in the vagueness of involved relationships. This is strikingly exemplified by the Vav conversive or consecutive, as it is termed by modern grammarians. This peculiar usage of the conjunction, unknown in the other Semitic tongues, enables the Hebrew to picture the sequence of events, past or future, with a clearness and directness of connection impossible in other languages. Another example of the realistic directness of Hebrew speech is the fact that in it the so-called *ratio obliqua* or indirect

* The Canaanites and Phœnicians are stated in this chapter to have descended from Ham. Their language, however, undoubtedly belongs to the stock now designated as Semitic.

† This may signify either the speech of the tribe of Judah or of the whole nation which afterward was thus called.

‡ The term *Εβραϊστί* Hebrew is used in the New Testament to designate the Aramaic vernacular of Palestine rather than the true Hebrew.

discourse is unknown. All quotations are made in the very words of the speaker.

Relation to Indo-European.— The Hebrew grammar shows, as has been stated, no evidence of relation to the Indo-European tongues.* Lexicographically there is much more agreement. A great number of Hebrew word-stems agree in sound with Indo-European terms of the same sense. But these are largely confined to onomatapoetic words or to such whose similarity may be explained as merely fortuitous. They do not establish any historical or generic relation which is inconceivable without agreement in grammatical structure.

Loan-Words.— The Hebrew, even in its purest state, contains numerous loan-words, derived from the languages of the peoples with whom the Hebrews came into contact. Examples of such are: from the Egyptian, *Yeor*, "the Nile"; from the Persian, *Pardes*, "a park"; *Darkemon*, "a daric"; from the Hindustani or Malabari, *Tukiim*, "peacocks," *Kof*, "an ape." In the later stages of the language these foreign terms increase greatly in number. The Mishnah Hebrew, for instance, contains several hundred terms derived from the Greek and Latin. Conversely, Hebrew loan-words are found in Greek and Latin, notably the former, as for example χρίσος, gold, Heb. חרוץ *Harus*. Many of these terms occur in early Greek writings, thus showing contact of the two peoples at a much earlier date than it is known historically to have occurred. These Semitic terms in the classic tongues may, however, have been introduced by the Phœnicians in their commercial expeditions and not be due to direct contact with the Hebrews.

Mishnah Hebrew.— It is a somewhat general, but erroneous, supposition that during the Babylonian exile the Jews entirely unlearned the colloquial use of the Hebrew, and that the Hebrew of the Mishnah is an artificial tongue, the product of the schools. As a matter of fact the Hebrew continued to be a living language throughout the period of the second temple, though limited to narrowing circles of the people. Because of its being chiefly represented in the Mishnah and other Halachic works, the language of the second Jewish commonwealth is known as Mishnah or Mishnaic Hebrew. It differs greatly from the Biblical Hebrew; but these differences are only sufficient to stamp it as a different dialect, not a different tongue. The main differences are as follows: the Mishnaic Hebrew contains a much greater number of foreign terms than the Bible language, its syntax is considerably modified by Aramaic influence, the feminine future or imperfect plural forms and the Vav conversive have disappeared, the plural ending ים = *im* has become ין = *in*, the suffix ם = *am* is changed to ן = *an*, the participles are more extensively used, the particle shel = של frequently preceded by the possessive suffix is often employed as a substitute for the construct state, prepositions and conjunctions are more numerous and are used differently than in the Biblical Hebrew and many new terms have been coined from existing Hebrew roots. In all this the influence of the schools was no doubt very potent. In the liturgy the language used is much closer to the Biblical model.

The Neo-Hebraic.— With the destruction of the second temple and the scattering of the Jews throughout the world influences disruptive of the Hebrew increased greatly in intensity. As a medium of spoken intercourse it almost ceased to exist, but as a literary medium it has been cultivated and used continuously up to the present day. This later form of the language is known as Neo-Hebraic or New Hebrew. It is not a uniform language but differs greatly according to the capacity of the writer and the nature of the subject treated, in some compositions being almost classic in beauty and correctness, while in others it degenerates into a mixed and corrupt jargon. At present the Hebrew is experiencing considerable of a Renaissance, principally in Russia and Palestine. Works on all possible subjects are written in it and a systematic effort is made to qualify it for all the purposes of a modern tongue by the introduction of new terms, coined mainly from the old Hebrew roots, for all modern concepts. Efforts are also made to rehabilitate it as a medium of spoken intercourse by the formation of societies whose members are pledged to speak only Hebrew with each other. In Palestine, where not only historic sentiment but the existence of diverse Jewish elements side by side have made the revival of the Hebrew not only desirable but necessary, these efforts have been most successful and the Hebrew has become again to a great extent the spoken language of the Hebrew people.

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* An exception must be made in the case of the German causative verbs, produced by modification of the original vowel of the verb, e.g., *schwimmen*, to float, *schwemmen*, to cause to float, *sinken*, to sink, *senken* to cause to sink. This is exactly in the manner of the Semitic tongues and is a peculiar phenomenon.

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BERNARD DRACHMAN,
Rabbi Congregation Zichron Ephraim, New York.

4. JEWISH LITERATURE. I. The Hebrew National Literature to 70 A.D.— The former belief that in patriarchal times Israel could have had no literature is now disproved. The code of Hammurabi has established the fact that already in the age of Abraham the art of writing was known, and records of events kept. Still, the oldest remains of Hebrew literature are only found in fragments of ancient songs and in parables, such as the war-song of Lemeh (Gen. iv, 23–24), and the Song of the Well (Numbers xxi, 17–20). Collections of such songs existed, and are alluded to under the title of 'Book of the Wars of the Lord' (Numbers xxi, 14), and 'Book of the Righteous' (Joshua x, 13; 2 Sam. i, 18). At a later period codifications of laws were begun, and still later, recollections of the history of the past, naturally overgrown with legends, were written down. It is impossible to give their date or that of the compilation in which they have been brought down to us. The nature of such investigations will always lead only to negative results with some degree of certainty. As to the positive inferences, drawn from these results, differences are bound to exist, especially as religious prejudice enters largely into this controversy.

It may be laid down as a generally accepted opinion, that the entire Pentateuch, as we have it, cannot have been written by Moses, and that the oldest part is the so-called book of the covenant (Ex. xxi–xxiv). Then follows the Jehovistic code, named so, because in it the name of God is given as Jehovah (or rather Jahveh). Then followed the Elohistic code, named from the employment of the word Elohim, for God. After that came the compilation of Deuteronomy, and finally the priestly code, chiefly found in Leviticus. This arrangement does not exclude the fact that some older passages are found in the younger codes, and that some of the older codes contain additions from the hands of the last compiler, who, naturally, lived after the priestly code had been written. The date of these books is always hypothetical. Still, it may be considered as the prevalent opinion, that the Jehovistic code comes from the 9th century, because it contains references to the sacred places of Bethel, which presupposes an author who lived in the kingdom of Israel. The Elohistic code may be dated from the 8th century. In the period, characterized by the revival of religious sentiment under King Josiah the book of Deuteronomy was discovered, according to the testimony of the Bible. It is, therefore, to be dated from about 600. The ideals evolved during the exile, when the past of Israel was gilded with reminiscences and the ideals of a strictly uniform ritual and an organized hierarchy were formed, were laid down in the priestly code during the 6th century, but the final adoption of the Pentateuch, with its attempts to fill some lacunæ and to harmonize some discrepancies, did not take place until about 400.

Prophetic literature began with Hosea and Isaiah during the 8th century. Micah, Nahum, Zephaniah and Jeremiah followed during the succeeding century. Again here, the dating is difficult. One of the clearest facts is a reference to King Cyrus of Persia (Isaiah xlv, 1), which indicates, beyond a doubt, that the prophet who wrote the passage was a contemporary with this Persian king, and, therefore, lived nearly two centuries after Isaiah, who lived at the time of Ahaz. Chapter 66, which denounces the rebuilding of the Temple as something heathenish, is of still later origin.

The Babylonian exile naturally stimulated literature in various ways, and still more so, the return of the exiles, to whom Cyrus gave permission to settle again in the land of their fathers (538). Of this time we possess the prophesies of Haggai and Malachi, and the beautiful idyl of Ruth, with its clearly indicated polemic against Ezra's prohibition of intermarriage with the heathen. The book of Jonah, although, as the language would seem to indicate, of very late origin, clearly presents a universalistic tendency which is the opposite of the strongly nationalistic ideas expressed by Ezra and Nehemiah. From the same period we must date a large number of the Psalms which form the hymnbook of the congregation of Israel. Here again the dating is exceedingly difficult, as a great many of the Psalms have no clear historical references. Others, such as Psalm 51, show that they have been interpolated by later hands, as the whole Psalm denounces sacrificial worship, while the last two verses pray for the restoration of the sacrifices. Some again, as Psalm 74, speaking of the destruction of the synagogues, clearly point to the time of Antiochus Epiphanes (175). Quite a number of the Biblical books cannot be dated at all, except in so far as the linguistic reasons will give a vague indication of their origin. Such is the case with Canticles, Ecclesiastes and Job, in reference to which various scholars differ widely, and only agree that Canticles and Ecclesiasties cannot have been written by Solomon, and that Job, which the Talmud places in the days of Moses, is of much later origin.

A clear indication of the origin, even to the month, is given in the book of Daniel. Here, in apocalyptic form, the world's history, as far as it affected the Jews, is reviewed, from the days of Alexander the Great to the death of Antiochus Epiphanes (164). It is evident that the author wrote under the impression produced by this important event, which he expected would inaugurate the kingdom of heaven. Less certain, although very likely, is the assumption that the book of Esther was written at the same period, because its author starts from the same point of view, presenting Israel's deliverance from a cruel persecution, although his idea is just the opposite of that of his supposed contemporary. Daniel pleads for a religious solidification, and the author of Esther for an amalgamation with the non-Jewish world. It is very difficult to say when the Bible, as such, was formed into a canon. It is probable that this never took place, but that the various books and fragments of such were collected as a library of ancient Hebrew literature. and only later on considered as

divinely inspired. The collection may have taken place in the 1st century B.C., and the belief that these books were written under special divine guidance was more and more crystallized a century later.

The conquest of the Orient by Alexander the Great had a far-reaching influence on the spiritual life of the Jews. Through the medium of Greek, which now was generally adopted in the Orient, the Jews became acquainted with an entirely different realm of thought. This widened their horizon and stimulated their pride, because, while the Greeks looked down upon them as barbarians, they were zealous to show that whatever was good in Greek thought was borrowed from the Jews. They conceived for the first time an idea of secular literature. There is only one book in the Hebrew Bible which could be definitely classed as secular, and this is the book of Canticles, almost certainly modeled after the Idyls of the Greek Theocritus.

The influence of Greek thought on the Jews is manifested in the so-called Septuagint (q.v.), a translation of the Bible, which, according to the legend, was undertaken by 72 Jewish scholars, designated by the High Priest, upon the request of the Egyptian king, Ptolemy III (283–87). This translation became very popular among the Jews outside of Palestine, and in some instances superseded the Greek original, as was also the case with the book of Sirach, written in Hebrew about 180 and translated 50 years later by the author's grandson into Greek. The Hebrew text was entirely lost until 1896, when remnants were discovered in the garret of an old synagogue. The book of Sirach is an imitation of the Biblical book of Proverbs. So is the Wisdom of Solomon, and a great many authors tried their hands at writing books after Biblical patterns, and at interpolating the existing Hebrew books of the Bible. These books form the collection of Apocrypha, which means hidden books or books excluded from the canon of holy writ. Some were devoted to contemporary history, as is the case with the first and second books of the Maccabees, written most probably in the 1st century B.C. Others were amplifications of existing Biblical books, as is the case with the fourth book of Ezra, or the book of Jubilees and the book of Enoch. Finally, a great number were apologetic, prompted by a desire to show to the Greek-speaking world the superiority of Jewish thought and life. To this class belong the third and fourth books of the Maccabees; the latter the work of the historian Josephus.

The desire to prove that Judaism was the only true philosophy and tended to elevate man to the highest attainable level prompted the writing of quite a number of Jewish books. The most prominent authors of this type are Philo of Alexandria and his younger contemporary, Flavius Josephus of Palestine. Both wrote historical and philosophical works. Josephus is known to us as a classic historian and is especially valuable for the history of his own time and the century preceding his days, for which he is the only complete source extant. In his book against Apion he defends Judaism against charges preferred by a Greek author. Similar is the work of Philo, the most classic representative of the Jewish Alexandrian school, on whose work Christian ideas are, to some extent, based. Besides theological writers, we find among the Jews a number of authors who, prompted by the Greek classics, tried to present Jewish ideas in the poetical form, borrowed from the Greeks. The most prominent are Ezekiel, who wrote a dream based on the Exodus, and another Philo, who wrote an epic on Jerusalem. Another peculiar feature of this welding of the Jewish and Greek spirits is presented in the Sibylline oracles. Here Jewish authors adopted the mythical idea of a Sibyl, who in remotest antiquity had predicted events of later times by putting into the mouth of the Sibyl the glorification of Israel and the prediction of its final triumph. Christian authors have partly interpolated some of these Jewish works and partly imitated them, making the Sibyl predict the coming of Christianity as the final solution of the world's problems.

II. Talmudic Period.—The Maccabean revolt (165 B.C.) was undertaken by a small band of people determined to die rather than give up their ancestral religion. When the victory was obtained their utmost care was devoted to the preservation and the development of the visible symbol of their religion, the Law of God. Thus the Scribes, who are traced back to Ezra, became the undisputed spiritual leaders of Israel. It was one of their number who composed the 119th Psalm, arranged so that eight acrostics are devoted to every one of the 22 letters of the Hebrew alphabet, praising in 176 verses the one all-important topic of the devotion to God's statutes, commandments, laws, ordinances and testimonies. This devotion to the law became still stronger after the destruction of the Temple of Jerusalem (70 A.D.). The law now was the one bond which united the scattered people of Israel. The study of the law was undertaken first with a practical end in view. It was the endeavor of the Scribes to clarify all possible details, and to answer all the questions which emergency might bring before the observant Jew. This habit of going into the minutiæ of the law, whose infiniteness was a matter in which the pious scholars prided themselves, led to the habit of developing the law, for the law's sake. The most unlikely, and even impossible, consequences were discussed in the schools, because it was meritorous to devote one's life to the expounding of God's will, laid down in his Thorah. Over these hair-splitting decisions the rabbis did not forget the spiritualizing ideas which were the real object of their Alexandrian coreligionists.

There were two principal methods of studying the word of God. The first, looking upon the law and its practice, is called Halachah, literally, the Walk, meaning the practice. The second method is called Hagadah, preaching, and is devoted to the finding of edifying thoughts in the Bible. For a long time these studies were confined to the schoolroom, the teacher expounding the law to his pupils as he had learned it from his teachers, or as he saw fit to present it. The mass of these laws grew. Originally, some made brief notes of their lessons, called Meggillath Setarim, "secret scroll," or named after the teacher in whose school the notes were taken, as Mishnah of Rabbi Akiba, of Rabbi Meir, of Rabbi Nathan. The name Mishnah became then the technical term for a collection of rabbinical laws. The word means the Second Law, or, more properly, although

not literally, a compendium of the law. According to reliable tradition the first one to compile these scattered laws into one code and to arrange them according to the subject matter was Judah Hanasi, head of the school of Tiberias, 200. His compendium of what may be called partly rabbinical law and partly Mosaic law, in rabbinical conception, was called Mishnah, and forms the textbook of the Jewish law, comprising the ritual as well as the civil laws and the penal code. The Dogma is almost entirely missing.

Judah Hanasi's first effort stimulated others into imitation. Other codes were compiled, either following the example of the Mishnah, and arranging the text according to subject matter, or taking the Pentateuch as text, and commenting upon its laws, showing the rabbinical interpretation. A work belonging to the first class is the Tosefta (literally, addition), and to the latter class belongs the Mekilta (literally, methods, namely of scriptural interpretation), a rabbinical commentary on Exodus, Sifra (The Book), a rabbinical commentary on Leviticus, Sifre (The Books), a commentary on Numbers and Deuteronomy. Legal discussions continued even after the Mishnah had been recognized as the authorized code of laws. The disciples and successors of Judah Hanasi continued to discuss the text of the Mishnah in the same way in which the text of the Bible had been treated by their predecessors. These glosses soon greatly exceeded the text in volume, and they were called Gemara (completion). Together with the Mishnah, the Gemara formed one book, called the Talmud. (See article TALMUD in this section). With the growing influence of Christianity, the condition of the Jews in Palestine became more and more unfavorable, and a great many emigrated to the more congenial Parthian kingdom in Mesopotamia, which, from the time of the Exile, had had Jewish settlements and so two schools were formed, one being in Palestine, notably in Tiberias, and the other in southern Mesopotamia. Both schools used the same Mishnah as a textbook, but the glosses naturally differed, although there was a considerable interchange of ideas owing to the fact that some noted Palestine scholar would settle in Babylonia, or some promising Babylonian student went to Palestine to continue his studies. Thus two Gemaras were compiled, one containing the glosses of the Palestinian rabbis, called the Talmud of Jerusalem, and the other containing the glosses of the Babylonian rabbis, called the Talmud of Babylon. The former was closed about 350, and the latter about 500. These dates, however, are not accurate, just as the tradition that Judah Hanasi compiled the Mishnah is not accurate when taken literally. All of these codes have been handled freely, and some of them have been interpolated by authors as late as the 8th century.

The fundamental conception of the Jewish student was that everything worth knowing was contained in the Bible, and notably in the Pentateuch, and so they looked to the Bible, and especially to the Pentateuch, for a confirmation of their conceptions. The controversies with Christianity, which especially affected the Jews in Palestine, produced quite a literature of homiletical explanations of the Bible. This is called the Midrash (literally, investigation). While the Midrash originally applies to both Halachah and Hagadah, it is more specifically understood with regard to the latter. The expositions of the Scripture delivered by various prominent teachers were collected, and so a vast number of Midrashim were compiled, the oldest of which is the Genesis Rabba, about 600. This literature was still more subject to arbitrary interpolations and additions, because the subject always disappeared behind the object, which was to teach the fear of the Lord. Who had first made a certain statement, and in what form he had made it, was from this point of view of no consequence.

The 6th and the beginning of the 7th century were sad times for the Jews, both of Palestine and of Babylonia. Their coreligionists, living outside of these two countries, scattered all over the northern coast of Africa, over Italy, France and Spain, and perhaps, already over Germany, were numerically so insignificant that their spiritual life left no traces behind. The conquest of the Orient by the Mohammedans brought new impulses to the Jews. First of all the schools of Babylon were revived, and devoted themselves to talmudical literature, to the composition of a liturgy, and by and by, also, to a more systematic study of theology, resulting in works on Biblical exegesis, on Hebrew grammar, on philosophy, and, finally, on theosophy. The spiritual leaders of this age were the men who presided over the schools of Babylon, and were called Gaon, and therefore this period, extending from 630 to 1040, is called the period of the Geonim.

Their most important object was to codify the law, and to make their decisions in individual cases as accessible as possible. So a number of codes were composed, either arranged according to subject matter, like the Halachoth Gedoloth of Simeon Kahira (700), or arranged according to the lessons from the Pentateuch, like the Sheeltot of Ahai. Furthermore, the authority of the famous scholars of Babylon was appealed to in difficult cases that came up for decision, in doctrinal questions, or very often for the interpretation of important talmudic passages. A copy of the replies was preserved, and as years passed by compilations of these replies were made, and served, as in our day, the decisions of the Supreme Courts. These decisions were written partly in the Jewish-Aramaic dialect of those days and partly in Arabic, which, since the rise of Islam, had superseded the former dialect spoken by the Jews. Another literary activity was that which was devoted to liturgical needs. The synagogue was strictly congregational, but the desire for unity on the one hand, and the impossibility of having properly qualified congregational leaders in every small congregation on the other, created a need for a uniform liturgy. Amram (800), the Gaon of Sura, was appealed to, and compiled such an order of services. This official liturgy, however, was soon supplemented by what might be called hymns, and is technically called by a word taken from the Greek, «Piyut.» The authors of such Piyuts are called «payetanim.» They amplified the service by dwelling on certain favorite themes, such as the sacrifice of Isaac, or by a poetical paraphrase of the official liturgy.

Their activity lasted from 800 to 1200, although occasional attempts at this kind of poetry extend down to our times. Their most prominent representative is Eleazar Hakalir. They employed both rhyme and acrostic, but owing to far-fetched allusions their style is obscure and the poetical value of their productions meagre.

In 760 a serious schism took place. Political conditions, combined with sectional strife and the growing propensity for the hair-splitting methods of rabbinical legislation, created a sect which rejected every authority but the Bible. The leader of this movement was Anan ben David, and his followers called themselves Bene Mikra ("Sons of the Scripture"), or Karaites. (See article THE KARAITES in this section). This movement produced quite an extensive polemical literature, and led to a deepening of exegetical studies as also to various attempts at presenting the theological conceptions of Judaism in a clear and concise form, while the doctrinal part of theology had formerly been altogether neglected out of preference for the law. The most important defender of the Karaitic doctrine is Salmon ben Jeroham, and on the side of the Rabbanites, as they were then called, Saadia, the Gaon of Sura (892–942). The latter translated the Bible into Arabic, wrote Arabic commentaries on Biblical books, and besides his activity in other directions, is noteworthy as a pioneer in what is called the Philosophy of Religion, but ought more properly to be termed apologetics. He wrote a book in Arabic on Judaism, 'Dogma and Philosophy.' From this time on, a decline in the spiritual life of the Babylonian Jews is noticeable. At the end of the 10th, and in the beginning of the 11th century, only the names of Sherira, and his son, Haii, are prominent as rabbinical authors. Both occupied the position of Gaon of Pumbeditha, in Babylonia. The former, especially, is noteworthy for his compilation of the history of rabbinical law, which was undertaken for apologetic purposes, in order to prove that the rabbinical law had come down in uninterrupted tradition from the days of Moses. With this decline in Babylonia, new centres of spiritual life appeared in other countries. In Morocco, Isaac Israeli (850–950) appears, whose medical treatises, written in Arabic, are considered important contributions to the medical literature of his day. He also wrote Biblical commentaries, and he was the first to present the idea that some of the passages of the Pentateuch were written after Moses' time. In the 10th century, we meet the first Jewish author known by name in Europe. He is Sabattai Donolo, who wrote on astronomy and on Cabala. Cabala, literally tradition, is the Jewish theosophy, which, while obscure in its origin, seems to go back to Neo-Platonic philosophy, and received its first systematic presentation in the Sefer Yezirah ('Book of Creation'), written most likely about 850. (See article THE CABALA in this section). Before Donolo, however, there were some Jewish authors in Italy, whom we do not know by name. One of them wrote the Josippon, a Hebrew abstract of the works of Josephus. Another wrote a homiletical compilation, called the Chapters of Rabbi Eliezer, and ascribed to Eliezer ben Hyrkanos, who flourished about 100 in Palestine, but really written by a Roman Jew, about 840.

The classic period of Jewish literature in mediæval times began in the 10th century in Spain. There, under the favorable condition produced by Arabic dominion, some Jews became powerful factors at the courts of the Caliphs, and, like their Arabic countrymen, employed their wealth and their influence for the patronage of literature. Such Maecenases were Hasdai ibn Shaprut (950), and Samuel Hanagid (1050). Under their influence, a systematic study of Hebrew grammar began. The names of the most important authors on this subject are Dunash ibn Labrat, Menahem ben Saruk (10th century); who were succeeded by Ibn Ganah and Judah Hajug. Ibn Ganah wrote the first Hebrew dictionary. With such attempts, naturally, exegesis went hand in hand, and penetration into the laws of the language developed a finer taste for Hebrew style, and a better conception of the art of poetry than that which the former Payetanim possessed. Of the numerous exegetes of this period, Abraham ibn Esra (1092–1167) deserves to be mentioned. He not only employed his knowledge of grammar and the principle that the Bible must be explained from the point of view of the context, but he also claimed that the rabbinical interpretation of scripture was not infallible, and, finally, he pointed out a number of passages in the Pentateuch which could not have been written by Moses. So he became the father of Biblical criticism. Of the Hebrew poets of this age, two deserve very prominent mention, Solomon ibn Gabirol (1022–70) and Judah Halevi (1080–1141). Both handled the Hebrew language not merely for the purposes of religious poetry, but for secular poetry, as well, and with a mastery which makes them classics, not merely of Jewish, but of the world's literature. Judah Halevi's 'Ode on Zion' has been translated into various modern languages. During this period, the Philosophy of Religion, if we may employ this traditional term, developed to its highest perfection. (See article JEWISH PHILOSOPHICAL WRITERS in this section). The first to write on this topic in Spain was Bahya ibn Pakuda (11th century), whose work, 'Duties of the Heart' emphasizes the necessity of an inner religion, as contrasted with the idea of strict ritual observance. A very popular work is the 'Kusari' of Judah Halevi. The most important development of this class of literature is the 'Guide for the Perplexed,' by Moses ben Maimon (1135–1204), written like the above-mentioned works in Arabic. Like them, it was translated into Hebrew, in the course of the 12th century. While this literary activity shows a somewhat secular tendency, also evident in works on astronomy, medicine, science, etc., talmudic studies were not neglected. Maimonides wrote a code of the Jewish law, including even the sacrificial cult, and the constitutional law for Israel's kingdom, dogma and ethics, under the title, 'Mishneh Torah.' He had been preceded by Isaac Alfasi (1013–1103), a native of Fez, who lived during the latter part of his life in Spain. Alfasi made an abstract of the Talmud, in order to facilitate legal decisions, and this work became a very popular code of Jewish law and was often commented upon.

Jewish literature developed in France, somewhat later than in Spain. There were chiefly two centres, one in the south, the Provence, and one in the east, the Champagne. The oldest

name of any prominence is that of Gershom, surnamed, "The Light of the Diaspora." He wrote talmudic commentaries, and a number of decisions and hymns. In the latter part of his life he moved to Mayence, where he established a new centre of Jewish spiritual activity. He died in 1028. To the school founded by him belongs the most popular of all mediæval authors, Solomon ben Isaac of Troyes, called "Rashi," abbreviated from the initials of his name, Rabbi Shelomoh Izhaki (1040–1105). He compiled the first complete commentary on the Babylonian Talmud, which from his time on was studied alongside of the text, and is printed with all talmudic editions. He further wrote commentaries on almost all books of the Bible, and his commentary on the Pentateuch, giving in simple, precise language the talmudic interpretations of the law and the best rabbinical homilies is the most popular work of mediæval Jewish literature, being used to-day in numerous schools and study circles. His disciples, among whom members of his own family, especially his two grandsons, Samuel and Jacob ben Meir, were most prominent, continued his work in commenting on the Talmud, and laid down their work in glosses, called Tosafot (additions). In Germany, where studies began with the 11th century, attention was almost exclusively given to the Talmud, besides which only religious poetry was cultivated, lacking, however, the true inspiration of the Spanish school.

With the death of Maimonides a marked decline occurred. With a few exceptions, exegesis degenerates into blind adherence to rabbinical authorities, philosophy becomes more and more fanciful homiletics, or gives way to theosophy, and poetry becomes punning on Biblical and talmudic phrases. Exceptions are found in the cases of Joseph Kimhi, and his two sons, Moses and David (1150–1230), and Moses ben Nahman (1200–70) whose commentary on the Pentateuch, though as a rule very sound, shows very often leanings toward fanciful mysticism. Notable, in this period, is the work of the family of Ibn Tibbon, four generations of which were engaged in the translation of Arabic works into Hebrew, and so, along with others, among whom may be mentioned Jacob Anatoli of the 13th century, helped to preserve the treasures of Greek literature, which they translated from Arabic into Latin. Among those who worked along the lines of Saadia for the harmonization of religion and science, mention must be made of Hasdai Crescas, author of 'The Light of the Lord,' Levi ben Gershom, author of 'The Wars of the Lord' (14th century), and, finally, Joseph Albo (1400–40), whose work 'Ikkarim' ('The Fundaments of Faith'), is altogether dependent on Maimonides. While this decline is noticeable in the best parts of Jewish literature, there is, on the other hand, a great activity in mystic literature. The most important work of this kind is the 'Zohar' ('Brightness'). It is a theosophical explanation of the Pentateuch, which gives itself as the work of Simeon ben Johai, a rabbi of the 2d century, but is now generally believed to have been written by a Spanish author, Moses de Leon, about 1280. The fabrications of works of this kind, attributed to the authorities of the Talmud, and even to patriarchs, became as frequent in these days as it had been in the first Christian century, when the book of Enoch, and the Sibylline oracles were composed. The German Jews of those days confined their activity exclusively to Talmudic literature, and even in this line were frequently devoting themselves to the minutest details of ritual practice. A very prominent author of this day, and the founder of an important school, was Meir of Rothenburg, who is otherwise well known in Jewish history as a martyr, who spent seven years in prison, because he refused to allow his congregation to pay the ransom, for the exaction of which King Rudolf had imprisoned him (1286). Exceptions are found in Italy, where most noteworthy are the poets, Kalonymos ben Kalonymos and Immanuel of Rome, the latter a friend and contemporary of Dante. Another exception are some polemical works against Christianity, among which mention may be made of the Nizahon, by Lipman of Muehlhausen (14th century).

III. From the Reformation to Moses Mendelssohn.— The expulsion of the Jews from Spain (1492) had an unfavorable influence on Jewish literature. The Jew, driven to the Orient and to Poland, and even expelled from all centres of culture in western Europe, became more and more spiritually isolated. On the other hand, however, rabbinical literature was more widely studied, owing to the assistance of the printing press. Talmudic studies flourished largely in the Orient and in Poland. The most important production of this time is the popular code of the law, the 'Schulhan Aruk,' by Joseph Caro (1488–1575), written in Safed, and edited with annotations by Moses Isserles (1520–72), of Cracow. Annotations to the code of the law formed the most popular literary occupation for the rabbis of the 17th and 18th centuries. While the belief in the rabbinical authority became more and more almost absolute, indications of a development in the opposite direction began to appear. Elijah Levita (1469–1549), a German who lived in Italy, and devoted his activity to grammar, made an important step in critical archæology by his discovery that the vowel points were not invented before the 7th century. He was followed by Azariah dei Rossi (1511–78), who, in his work 'Meor Enayim' proved that the authority of the Talmud could not be maintained in questions of history and astronomy. His work brought forth a number of apologies of rabbinical literature, notably, the 'Beer Hagolah,' of Loew ben Bezalel, rabbi of Prague (1530–1609). Similar apologies were prompted either by the attacks of Christianity, or by skepticism within the Jewish fold. To the former class belong the 'Consolations' of Samuel Usque (1553), and to the latter, the 'Nomologia' of Immanuel Aboab (1625). An indication of a sounder development of Jewish literature, although prompted by apologetic methods, were the chronicles, becoming more and more numerous from the beginning of the 16th century. The most prominent of these are 'The Sceptre of Judah,' by Solomon ibn Verga, 'The Chain of Tradition,' by Gedaliah ibn Yahia, and the 'Valley of Weeping,' by Joseph Hakohen, all of the 16th century. The influence of this development is offset by the growth of Cabalistic literature, which penetrates into every branch of religious practice, and degenerates into the compilation of sense-

less phrases. The comparatively soundest representative of this class is Isaiah Horwitz (1550–1630), whose book 'The Two Tablets of the Covenant,' intended to give a system of Cabala, became very popular. The type of utter degeneracy is represented by Hayim Vital, whose exposition of the doctrine of the transmigration of the soul, and of similar Cabalistic doctrines, is partly childish, and partly unintelligible. At the same time, however, Cabala was attacked severely by Leon Modena, of Venice (1571–1648), who also wrote a defense of rabbinical Judaism, against the attacks of freethinkers, of whom Uriel Acosta is the most prominent type. Apologetic works were further written by the Amsterdam rabbi, Menasseh ben Israel (1600–55), who is famous in history owing to his audience with Oliver Cromwell, which resulted in the readmission of the Jews to England, after nearly 400 years of exile. Still, the most untiring activity of the Jews was devoted to dialectical explanations of the Talmud, and to the exposition of the ritual law. A great exception is the case of Moses Hayim Luzzatto (1707–47) of Padua, whose allegorical dramas, written in Hebrew, and patterned after Italian masters, rank with the best Hebrew poetry of mediæval times. Another exceptional position may be claimed for Jacob Emden (1696–1776) who, while a strict believer in rabbinical authority, wrote a work, proving that the 'Zohar,' as we possess it, was the work of a Spanish Jew.

IV. From Moses Mendelssohn to the Present Day.— Religious toleration, partly the result of actual conditions as they developed after the Thirty Years' War, and partly the result of the philosophical teachings of Locke, and his disciples, the English Deists, and the French encyclopedists, influenced the condition of the Jews very favorably. Admitted to higher occupations, and to the universities, the number of those who devoted themselves to secular learning began to increase considerably in the 18th century. This movement to rescue the Jews from their mental isolation received its strongest impetus from Moses Mendelssohn (1729–86), whose translation of the Pentateuch into pure literary German changed the hitherto one-sided education of the Jewish youth. His example was followed by a number of his friends, who, like him, translated the Biblical books and the prayerbooks into pure literary German, and wrote Biblical commentaries, which, by their clear Hebrew, and by their embodiment of modern methods and ideas, broadened the intellectual horizon of the Jewish student. Together with this movement there was a revival of Hebrew poetry, notably due to Hartwig Wessely (1725–1805), which helped to develop a literary art, almost forgotten since the beginning of the 16th century. A prominent factor was *Hameassef* (1783–1810), a Hebrew periodical, edited by friends of Mendelssohn. Through the medium of these works, the Jews became acquainted with secular literature, and very soon a generation arose that received a secular education equal to that of their Christian neighbors, which could not but influence the development of Jewish literature. This branch, is inaptly called, "The Science of Judaism." It is a systematic presentation of Jewish literature and history. The founder was Leopold Zunz (1794–1886), whose 'Gottesdienstliche Vortraege' was the first, and is still unsurpassed in its scientific presentation of homiletical literature. Of his numerous other works, special mention must be made of his 'Synagogale Poesie,' another pioneer work, presenting a history of liturgical literature and especially of liturgical poetry. His work was taken up by some Polish scholars, who, possessing a vast acquaintance with Jewish literature, lacked systematic training, and living in a land where secular studies were considered heresy, had received the first ray of light from some men who had come, under Mendelssohn's influence, to Berlin. The leaders were Nahman Krochmal (1785–1840), and Solomon Loeb Rapoport (1790–1867). The latter presented for the first time biographies of mediæval Jewish authors in scientific form. The attack on this movement by fanatics prompted some fine satirical works in Hebrew, notably, 'The Revealer of Secrets,' by Joseph Perl (1773–1838), patterned after the 'Epistolæ obscurorum,' and a travesty on the Jewish mystics; also 'The Observer,' by Isaac Erter (1792–1851).

These two currents of literature, namely, the investigation of the history and literature of the Jews on the one hand, and the poetical representation of modern ideas in good Hebrew, on the other, characterize the literary activity of the Jews in the 19th century. The work of Zunz was continued by various authors, notably Zechariah Frankel (1801–75), who was head of the Breslau Seminary, and stimulated many authors into similar activity. Abraham Geiger (1808–74), the leader of the liberal movement in religious matters, has also contributed to the elucidation of Jewish history. An attempt to present history in a more popular form was first made by Isaac Marcus Jost (1793–1860). The most popular work of this kind was written by Heinrich Graetz (1817–91), whose work has gone through several editions, and been translated into various languages. More strictly scientific is the work of Moritz Steinschneider, born 1816. Of the numerous scholars who worked on individual topics of Jewish history and literature, mention may be made of Isaac H. Weiss (1815–1905), Meyer Kayserling (1829–1905), David Kaufmann (1852–99). Jewish poetry and fiction were chiefly cultivated in Russia, where, through the efforts of Isaac Baer Lewinsohn (1789–1860), modern ideas were cultivated. A marvelous art in the use of Biblical Hebrew for novels was exhibited by Abraham Mapu (1808–67), who first attempted to write novels from Biblical times, and later on used the Biblical language with unprecedented skill in writing a novel from the life of the Russian Jews of his day. Poetry, especially of the satirical sort, is best represented by Leon Gordon (1831–92), while in novels from contemporary Jewish life Perez Smolensky (1842–84) ranks foremost.

Some words must be said about the development of literature in Yiddish, which is a German, freely mixed with Hebrew, and in eastern Europe also with Slavic. Originally devoted merely to practical religious purposes, such as translation of prayerbooks for the edification and religious instruction of women, in the latter half of the 19th century it began to be used for higher literary purposes, in

poems, novels and dramas. As a poet, Simeon Frug may be considered as the foremost representative; among the novelists, S. J. Abramowitz, Solomon Rabbinowitz and J. S. Peretz, some of whose works may justly claim a place in the world's literature. Among the dramatists, Jacob Gordin is noteworthy for his bold treatment of sociological and economical questions, although the plots of his plays are mostly adaptations from the classics of other languages.

In this connection a new branch of literature has to be mentioned, which, akin to the idyl, is peculiarly Jewish. It is the so-called Ghetto novel, cultivated first in the German language by Aaron Bernstein (1812–84), in his two novels, 'Voegele der Magid,' and 'Mendi Gibbor,' presenting life in a provisional town of Eastern Germany in the period of transition from Ghetto to modern culture. Leopold Kompert (1822–86), wrote stories from Bohemian Ghettos which are masterpieces of their kind. Life in the overcrowded Ghetto districts of eastern Galicia, with its squalor and superstition on the one hand, and its ardent desire for knowledge and its beautiful family life on the other, were masterfully presented by Leopold von Sacher-Masoch (1835–95), and Karl Emil Franzos (1848–1904). Israel Zangwill, born 1864, presented the life of the Russian Jews in London. Sketches from Jewish life in Moravia were written by Martha Wolfenstein (1871–1906), in her 'Idyls of the Gass.'

A development of the 19th century is Jewish periodical literature, although its beginnings reach back to 1674, when a periodical in Judeo-Spanish was first published in Amsterdam. These periodicals are mostly weekly, when devoted to religious interests. The oldest of them is the *Allgemeine Zeitung des Judenthums*, now of Berlin, founded in 1837 at Leipzig. It was followed by the *Archives Israélites* of Paris, in 1840, the *Jewish Chronicle* of London, in 1841, the *American Israelite* of Cincinnati, in 1854 and the *Jewish Messenger* of New York in 1856. Such papers appear in at least 15 languages. Dailies in Hebrew and Yiddish are devoted to general news, but give particular attention to Jewish affairs. They appear in Warsaw, Wilna, Saint Petersburg and New York. The oldest is *Hazefirah*, founded in 1862 as a weekly, edited as a daily since 1886 and suspended by order of the government in 1905. Some monthlies and quarterlies are devoted to scientific and literary purposes; the most prominent are *Monatsschrift fuer Geschichte und Wissenschaft des Judenthums* (1851), *Revue des Etudes Juves* (1880), and the *Jewish Quarterly Review* (1880). To this class belong numerous yearbooks, published in various languages, and appearing more or less regularly.

In spite of these modern tendencies, which occupied the attention of Jewish authors during the 19th century, talmudic studies of the old type were not entirely neglected. They are, however, mostly confined to the east of Europe, and the Orient. The most prominent rabbinical author in the beginning of the 19th century was Moses Schreiber (Sofer), rabbi of Presburg (1762–1839). In the Orient, the most prolific authors of rabbinical works of the 19th century are Hayim David Hazan (1790–1876), rabbi of Jerusalem, Hayim Palagi, rabbi of Smyrna (1782–1868), and finally, Hayim Hezekiah Medini, of Hebron (1832–1904). Of the Jews of Europe, the most prominent rank amongst the talmudic authors in the latter part of the 19th century, was held by Isaac Elhanan Spektor (1810–96), rabbi of Kovno.

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GOTTHARD DEUTSCH,
Professor of History, Hebrew Union College, Cincinnati, Ohio.

5. JEWISH PHILOSOPHICAL WRITERS. The philosophic spirit in its proper sense appeared among the Jews at the time of their contact with Greek culture, which began with the conquest of the Semitic Orient by Alexander the Great. Its first definite traces are to be discerned in the skepticism which pervades Job and Ecclesiastes, books which in their present form belong, therefore, to a period subsequent to the last quarter of the 4th century B.C. In the former work, the skepticism is more or less veiled and proceeds no further than to express a doubt as to the wise workings of Providence. In the latter composition, the skeptical spirit is more pronounced and amounts to a practical denial of divine justice. Results of a more positive character, however, appear in the system of Philo Judæus (b. in Alexandria about 20 B.C.; d. after 40 A.D.). In his many works, of which the chief are in the form of commentaries to the Pentateuch, he strives to reconcile the traditional tenets of Judaism with the eclectic school of Greek philosophy. While recognizing the Old Testament as divine and authoritative, he makes full use of allegory, to adapt Jewish conceptions to current Greek wisdom. The cornerstone of his system is formed by his doctrine of the Logos or "Word" as the active agency associated with God in his creative powers. He identifies the Logos with the "divine wisdom," so strongly personified, notably in the book of Proverbs, as to become not merely an attribute, but an element of the divine. Philo is influenced throughout by Plato's doctrine of ideas, and while leaving little permanent impress on Jewish, he profoundly influenced Christian theology. The conception of the "Word" in the Gospel of John is the most striking trace of the Philonic doctrine, and so enthusiastic were the early Christians over Philo's teachings that some of them saw in him a Christian. Philo's philosophy plays also a prominent part in the writings of the Church Fathers, and it is chiefly due to them that his works were preserved.

Saadia.— One of the earliest and most distinguished Jewish philosophers dates from the 9th century when the intellectual centre was still in the East, although there were already indications of its transfer to northern Africa

and Spain. The rise of Islam, followed by conflicts among its adherents as to the interpretation of the Koran, had given a fresh stimulus to philosophic thought which had its influence likewise upon the Jews. The rise of the Karaite sect (see article THE KARAITES in this section) at the end of the 8th century is to be directly ascribed to this influence. For a time it seemed as though the disintegration of Rabbinical Judaism was at hand when the tide was stemmed by a profound thinker and prolific writer — Saadia ben Joseph, born in Dilaz in upper Egypt in 892 and who died at Sura 942. Equally versed in the Talmudic and Islamic theology, Saadia attempted to reconcile the teachings of Jewish orthodoxy with the current philosophy as developed chiefly by the Islamic rationalists known as the Motazilites (or Separatists). His main work, written in Arabic, 'Book of Faith and Doctrines,' was completed in 933 and may be said to mark the first systematic compend of Jewish philosophy. Differing from Philo in making Biblical doctrines his starting-point, his entire efforts were devoted to demonstrating that where the current philosophy or rationalism was in contradiction to the Old Testament, the philosophy must be wrong and the Old Testament right. The aim of the book is clearly set forth in the introduction as intended to put an end to the prevailing confusion, and to rescue those immersed in the sea of doubt and error. Recognizing as sources of knowledge the testimony of the senses, reason and logic, he declares that a fourth source — revelation, as comprised in the Old Testament, is superior to them all, because through revealed knowledge the means is found to control the correctness of the teachings deduced from the other sources. In his chief philosophic work Saadia includes discussions of the creation of the world, of the attributes of the Creator, the theory of revelation, the beliefs based upon divine justice, the doctrine of the soul, the resurrection of the dead and of the Messianic belief, concluding with a summary of ethical precepts.

Beginning in each main subdivision with the teachings of the law and the prophets on the subject, he contrasts these teachings with the speculations of the philosophers and shows wherein the errors of the latter consist. He betrays Aristotelian influences and at times, especially in his discussion of the problems of creation, follows very closely the model of the more rationalistic Islamic theologians. Accepting the philosophic doctrine of a *creatio ex nihilo*, he proves its correctness from the use of the word "bara" in Gen. i, 1, which he declares means creating something out of nothing. The doctrine of a creator as set forth through revelation in the Old Testament is confirmed by reason which declares that creation implies a creator. Passing on to the more precise determination of the attributes of the Creator, he polemicizes against the dualistic tenets of Zoroastrianism, and against the trinitarian doctrine of Christianity in his endeavor to justify the conception of God as a unit. The divine laws as laid down in the Pentateuch, supplemented by oral tradition, are, according to Saadia, given in order to enable men to attain to the highest degree of blessedness; and while recognizing in the divine laws given to Israel two classes, (a) those suggested by reason and (b) those due to revelation, he shows by examples how the latter may likewise be explained by pure reason. Perhaps the most original feature in Saadia's philosophy is the manner in which he endeavors to reconcile the doctrine of the freedom of the human will with the belief in the omniscience and omnipotence of God. He solves the problem by declaring that God could control the human will, but deliberately gave men freedom, so that he might bear the responsibility for his acts. Suffering and trials are sent by God to man in order to bring him by spiritual discipline nearer to perfection. He criticizes the various theories proposed by philosophers and others as to the nature of the soul and declares it to be a fine substance created by God, and placed in the human body during its stay on earth. After its life on earth another existence is in store for the soul, but only after the number of the souls to be created has reached an end, when all souls are again united to their bodies. In this combination of the doctrine of immortality with the resurrection of the body, Saadia betrays the influence of Islamic theologians who postulated this doctrine on the basis of the pictures of Paradise drawn in the Koran. Saadia's Messianic beliefs accord with those indicated in the Talmud, pointing to the appearance of the Messiah as a preliminary to the resurrection of the dead. In the world to come the good and pious will receive their recompense for their acts and sufferings in this world. The influence of Saadia on his age was profound. Through his philosophy in conjunction with his polemical writings against the Karaites, the new sect received a blow from which it never recovered. Jewish orthodoxy once more won the day, and it was not until the days of Maimonides that the soundness of Saadia's system was questioned.

Ibn Gabirol.— Passing by some minor writers like Bachya ben Joseph ibn Pakuda who flourished at Saragossa in the first half of the 11th century and who largely on the basis of Saadia's religious philosophy developed a system of Jewish ethics in a work known as 'The Guide to the Duties of the Heart' that represents a combination of Jewish doctrines with certain phases of Islamic mysticism, we reach in Solomon Ibn Gabirol (b. in Malaga about 1021; d. in Valencia about 1058) a thinker of the first magnitude, whose chief work written in Arabic is 'The Fountain of Life.' Though its aim is to reconcile the monotheistic doctrines of Judaism with the philosophy of Neo-Platonism which Gabirol espoused in opposition to the prevailing Aristotelianism, its basis is essentially philosophical rather than theological. Nor does the author lay any special stress upon his Jewish beliefs, as a consequence of which the influence that he exerted upon the scholasticism of mediæval Christianity was far greater than upon Jewish theology. The work consists of five treatises dealing respectively (1) with matter and form, (2) the substance underlying the corporeality of the world, (3) proofs of the existence of intermediaries between God and the physical world, (4) proofs that these intermediaries known as "simple" or "intelligible" substances are composed of matter and form, and (5) a treatise on universal matter and universal form. According to Gabirol's system,

everything that exists is embraced under these three categories: (1) God, which is the first substance, (2) the world, which is matter and form, and (3) will as intermediary between the two. Whether Gabirol connected with God divine attributes apart from an existence pure and simple is a question in regard to which opinions differ. The best authorities, however, incline to the view that Gabirol was an opponent of ascribing attributes to God as ingredient parts of his Being. Gabirol's chief model among the Greek Neo-Platonists is Plotinus, though he knew this author through secondary sources only. In an ethical treatise entitled 'The Improvement of the Moral Qualities,' composed in 1045, he is even bolder than in his philosophic work, inasmuch as he attempts to formulate principles of ethics without reference to religious belief or doctrines. A comparison between Philo and Gabirol naturally suggests itself. Both revert to Plato as the natural source of their inspiration Philo adapted Judaism to the Platonic doctrines whereas Gabirol a thousand years later revised Neo-Platonism and adapted Judaism, so far as it entered into his thoughts, to this system. Like Philo, Gabirol's influence was profound on Christian theology and under the Europeanized form of his name, Avicebron, his writings translated into Latin helped to mold the thought of such philosophers as Albertus Magnus, Thomas Aquinas, Duns Scotus and Giordano Bruno. Ibn Gabirol was also a poet of the first rank, whose liturgical compositions in Hebrew give evidence that his philosophy, though so apparently independent of Jewish doctrines, had not weaned him from Jewish orthodoxy. In this combination of poet and philosopher, he suggests comparison with Judah (or Jehudah) Halevi — the next important writer to engage our attention.

Judah Halevi was born in Toledo toward the end of the 11th century, dying some time after 1140 during a journey to the Orient. He is more famous for his exquisite Hebrew poems — both lyric and religious — than for his philosophy. The tone, form and imagination of the poet color his views of life far more so than in the case of Ibn Gabirol. Hence, in his philosophic treatise, written in Arabic, but generally known by the title of the Hebrew translation as 'The Book of Cuzari' — he takes his stand upon revealed religion, which to him is superior and more trustworthy than any human speculation. He does not even attempt, like Saadia, to reconcile religion with philosophy, but devotes himself mainly to showing the superiority of Judaism among the religions claiming to be revealed. The discussion of the tenets of Judaism and the proof for their truth is given in the form of a dialogue between a Jew and the pagan king of Chazars — hence its title — who after discussing religion with a philosopher, a Christian and a Mohammedan, turns to the Jew for a statement of his beliefs. Naturally Judah Halevi cannot escape dealing with the current philosophical doctrines, and while claiming to draw his views exclusively from the teachings of the Old Testament, introduces distinctively Aristotelian notions, as well as certain views held by Islamic theologians. God is for him the first cause who creates the world out of "nothing." He divides the attributes of God, without any distinction between essential and non-essential, into three classes — active, relative and negative. While not regarding God as a corporeal Being he is not prepared to reject all the anthropomorphisms in the Old Testament as purely symbolical. According to him, the immortality of the soul, the resurrection of the dead and the doctrine of rewards and punishment are all taught in the Old Testament and constitute essential features in Judaism. An entire division of the book is devoted to a refutation of the Karaites, an exposition of the basis and development of oral tradition as exemplified in the Talmud, while the fifth and last division is taken up with polemics against the current systems, including the Aristotelian cosmology and the Epicurean doctrine of Fatalism which was also accepted by the orthodox Islamic theologians. His attempt to reconcile the freedom of the human will with the omniscience of God follows largely on the lines laid down by Saadia.

Maimonides.— The greatest of all Jewish philosophers in whom their philosophical activity reached its zenith was Moses ben Maimon, generally known as Maimonides (b. in Cordova, 30 March 1135; d. at Cairo, 13 Dec. 1204). His two main works are (1) the codification of the talmudic regulations systematically arranged into 14 groups. This elaborate treatise, to which he gave the title 'Mishneh Torah' or 'The Second Law' and which was written in Hebrew, is a profound monument to the author's learning, ingenuity and skill. It marked an epoch not only in talmudic studies, but in the history of Judaism, and although intended to uphold and strengthen the authority of the Talmud, in reality led in the course of time to an anti-talmudic movement, which after many vicissitudes contributed to the decline of Rabbinical authority in Judaism and eventually to its overthrow in all of western Europe and in America. The orthodoxy displayed by Maimonides in his code is in striking contrast to the freedom and boldness of his philosophical and theological views in his great philosophical work, completed in 1187, written in Arabic and known as the 'Guide of the Perplexed.' Upon this work his claim to immortal fame rests. Its principal aim may be summed up as an attempt to bring about the reconciliation between the prevailing modification of the Aristotelian philosophy and Judaism. Maimonides purposed to do for Judaism what Alfarabi, Avicenna (or Ibn Sina) did for Islam — to adapt it to the teachings of Aristotle, as these teachings were understood and interpreted in his days. Starting from the thesis that there can be no contradiction between truths revealed by God and truths discerned by the human mind, which is a power derived from God, Maimonides explains the apparent conflict between science and religion as due to a misunderstanding of the anthropomorphisms in the Old Testament. Holding more strictly than any of his predecessors to the doctrine of the incorporeality of God, and going to the length of declaring every one who denied this dogma to be an idolater, he is obliged to fall back in accounting for anthropomorphic descriptions of God in the Bible on the old Philonic principle of the twofold meaning — an external or superficial one and an internal or allegorical one. By the same

method he disposes of the attempt to predicate positive attributes into five classes, (1) those that include all the essential properties of an object, (2) those that include only a part of the essential properties, (3) those indicating a quality, (4) those indicating the relation of one object to another, (5) those referring to the actions of an object. He rejects all but the last either because they rest upon the erroneous assumption that God can be defined or because they contradict the fundamental view of the absoluteness of God. Attributes referring to God's actions may be admitted because they do not assume the coexistence with him of anything else. Maimonides, accordingly, interprets the names given to God in the Old Testament as indicative of His activity. While accepting the principle of *creatio ex nihilo,* because it can be supported by better arguments than the doctrine of the eternity of matter, he admits that no positive proof can be given for the former and criticizes sharply the seven arguments in support of the doctrine given by the Islamic theologians. In a series of 26 propositions he establishes the doctrines of the existence, unity and incorporeality of God as the primal cause. He accepts the Aristotelian view of a number of heavenly spheres, each endowed with an intellect and possessing a soul, but instead of regarding these spheres and intelligences as coexisting with the primal cause, Maimonides maintains that they were created by the will of God. With the help of his allegorical method of interpreting Biblical passages, he proceeds to show that the account of creation in the book of Genesis is in accord with the views of Aristotle. He takes the first word of Genesis as the term for "Intelligences," which constitutes the first work of God, as proclaiming the *creatio ex nihilo.* Adam's sin and even the three sons of Adam are accorded a purely allegorical interpretation, so that in this way everything falls into line with the Aristotelian system. When he comes to prophecy, which in accord with the philosophers he regards as a natural quality that may be granted to any man whose physical, mental and moral qualities are in perfect condition, he extends the allegorical method to the interpretation of the prophetic visions, notably those of Ezekiel. Evil, according to Maimonides, has no positive existence, and consistently all such evils as are in the Old Testament ascribed to God as the direct cause are interpreted allegorically. His solution of the apparent contradiction between God's omniscience and the freedom of the human will possesses at least one original feature in the emphasis that he lays upon God's knowledge as essentially one of possibilities, and that the knowledge of the realization of one of several possibilities does not affect the nature of the "possible." This being admitted, man has a free choice among several possibilities. The last part of the 'Guide' is devoted to an exposition of Maimonides' system of ethics which is based upon the Pentateuchal laws. These laws bear either directly or indirectly upon morality as the means to attain the highest happiness which in the case of men as superior to the animal world and as the end and purpose of creation must consist in a moral and intellectual perfection. In accordance with this basic principle he proceeds to the interpretation of the Pentateuchal precepts and from them deduces precepts for the regulation of man's life. His philosophy though intended as a justification of Judaism was not so regarded by those whose philosophical interests were subsidiary to their religious zeal. There was much in the 'Guide' that appeared rationalistic to more simple-minded believers—more particularly his views of prophecy and miracles, both of which he accounted for as due to perfectly natural processes. His lack of positiveness with regard to the doctrine of the *creatio ex nihilo* also aroused offense, and it was not long before a controversy arose that grew in bitterness between the adherents and opponents of Maimonides in France and Spain, and which threatened at one time to create a break in Jewry. The influence of Maimonides' 'Guide' extended, however, far beyond the limits of Judaism. Through a Latin translation it made its way to Christian scholastics and it was instrumental, like Gabirol's 'Fountain,' in shaping the thoughts of men like Albertus Magnus, Duns Scotus and numerous others, while within the pale of Judaism its traces may be discerned in Spinoza's system and down to the 18th century in men like Moses Mendelssohn and Solomon Maimon.

Gersonides.— Half a century after Maimoindes we encounter in Levi ben Gerson, known as Gersonides (b. 1288; d. 1344), and in Latin as Leo Hebræus, a philosopher who struck out into new paths, diverging somewhat from those of Maimonides. He was remarkable for the wide scope of his attainments, embracing logic, metaphysics, mathematics and medicine. As a philosopher his fame rests upon his work 'The Wars of God,' which is devoted chiefly to a discussion of those questions which Maimonides left in a vague state or in which he opposed Aristotelian principles. Gersonides clings more closely to Aristotle than any other Jewish philosopher, and thus represents the climax of Aristotelian influence in Jewish theology. If Maimonides is dependent upon Ibn Sina's interpretation of Aristotle, Gersonides may be said to represent the adaptation of Ibn Roshd's (or Averroes') exposition of the Aristotelian system to Judaism and which involved a more radical departure from orthodoxy. In a conflict between reason and religion, he does not hesitate to give the preference to reason. He ranges himself on the side of the scholastic realists and follows the arguments of the latter in maintaining that the intellect inasmuch as it consists of conceived ideas having a real existence may survive after the body decays. In opposition to Maimonides, he claims that certain attributes, such as knowledge, can be predicated of God but that divine knowledge is not to be placed on a par with human knowledge in any such particular. Through the wide divergence between the two, he opens the way for the maintenance of the doctrine of the freedom of the human will in the face of God's omniscience. Perhaps the most original part of his philosophy is his view of creation, assuming as he does that from eternity there existed inert and undetermined matter, devoid of form, to which God at the proper time bestowed form, life and motion. He thus occupies a middle position between those who accepted the eternity of matter and those who admitted the *creatio ex nihilo.*

Crescas.— The revolt against Aristotelianism came in the following century, the chief representatives of the movement being Chasdai ben Abraham (or ben Jehuda) Crescas (1340–1410) and his pupil Joseph Albo (1380–1435). In his work, 'The Light of God,' Crescas boldly makes front against the subjection of Jewish theology to the tenets of the Aristotelians, whether of the Avicenna-Maimonides or of the Averroes-Gersonides type. He criticizes the 26 Aristotelian propositions adopted by Maimonides as the basis of his doctrine of the First Cause, and endeavors to show that through revelation alone can the belief in the unity of God be established. Against Maimonides he assumes that attributes can be assigned to God without involving oneself in contradictions. As the six fundamental doctrines of Judaism he sets up the omniscience, omnipotence and providence of God, prophecy, freedom of the will and recognition of a purpose in creation. As the purpose of God's creation of the world he assumes the happiness of man's soul, though admitting that this happiness is not fully realized until after death when the soul enters into higher realms of existence. The soul is independent of knowledge and man's highest perfection is reached not through knowledge but through love of God's law, and obedience to it.

Joseph Albo.— Crescas' pupil Joseph Albo develops the themes of his master still further. In his 'Principles' he plants himself even more securely on the basis of revelation, maintaining that the Mosaic law as the outcome of revelation establishes the claim of Judaism for all times as the only true religion. Instead of six, he sets up three principles as fundamental to this true religion, (1) the existence of God, (2) revelation and (3) rewards for the observance of God's laws and punishment for disobedience. Albo may be called the philosopher of Jewish orthodoxy par excellence, and the only feature of this orthodoxy that is perhaps not accentuated with its full force is the Messianic doctrine which is obscured by that of divine retribution. Such was the popularity of Albo's work that it eclipsed the glory of Maimonides. The philosophical movement among the Jews thus issues, as among the Mohammedans, in the triumph of orthodoxy. With the breaking of the bond between the prevailing Aristotelian systems and Judaism, a distinctive religious philosophy among the Jews, for the time being at least, comes to an end. Instead, we have, as the next step in the realm of speculation, the tendency toward mysticism, which became more marked as the ages passed on, until in the 16th century it successfully stifled all efforts at independent speculation. The dark period of persecution which the Jews encountered, leading in Spain to their expulsion at the end of the 15th century, and to their more or less complete isolation from the life around them by the establishment of ghettos, either voluntary or enforced, in Italy, France, Germany, Poland, Russia and even Holland, was also a factor in bringing the philosophical movement among them to a temporary close. Thus thrown upon their own resources, the study and interpretation of the Talmud, without reference to extraneous currents of thought, furnished by the side of absorption in cabalistic lore the outlet for intellectual energies. See article THE CABALA in this section.

Spinoza.— In a measure Baruch Spinoza (1632–77) is to be regarded as a representative of Jewish philosophy because of the influence exerted upon him in his youthful training by Maimonides, Gersonides and Crescas, but his thought turning into the new direction given to philosophical speculation by the movement that dates from Descartes he developed a system in which Judaism as a revealed religion had no part. The breaking away from scholasticism opened up new aspects, and Spinoza takes his place in the general history of philosophy rather than in the religious philosophy of Judaism, and this despite the fact that there are features in his system which can be directly traced to some of the Jewish philosophers of the Middle Ages. Thus it is generally agreed that Spinoza's attitude toward the problem of determinism was derived from Crescas, as likewise the emphasis he lays upon the love of God, rather than knowledge as the highest human quality. From Maimonides he appears to obtain the view that Time arose in Creation and not the reverse. His attitude toward the question of divine attributes also points to the influence of Jewish philosophers. His break, however, with the prevailing form of Judaism was so complete, as illustrated not merely by his excommunication but by his departure from the accepted doctrine of the Pentateuchal Laws as a special dispensation for the Jews derived directly from the divine source through Moses, as to place him outside of the rank of Jewish philosophers. His system, however, furnishes a link between Jewish theology and the currents of the later philosophical systems like those of Leibnitz and Wolff (built up largely under the influence of Spinoza, though with an endeavor to escape from his conclusions), so that when toward the end of the 18th century the Jews once more began to take their place within the world's activities, the influence of Spinoza on specifically Jewish thought also began to make itself felt. Moses Mendelssohn, the mediator between Judaism and the external world, though a follower of Wolff's system, yet derives some of his views from Spinoza, and Solomon Maimon, one of the ablest of the early exponents of the Kantian philosophy, passed through a period of domination of Spinozastic philosophy. Indeed from a certain point of view, Spinoza's pantheism may be regarded as the last word of Jewish religious philosophy, though it involves the discarding of the specific doctrine of the divine authority of the Old Testament. In a certain sense, Spinoza is the last Jewish philosopher. See SPINOZA.

The attitude of Mendelssohn and Maimon toward the systems prevailing in their days is typical of modern Judaism, the exponents of which are swayed, as are the exponents of Christianity, by the currents of thought arising on the basis of scientific investigations outside of the domain of religious belief — either accepting the modern attitude toward the problems of existence, or endeavoring to confront it. Whether conditions will ever arise that will again lead to a distinctively Jewish philosophy is more than doubtful. The present tendency throughout the more intelligent religious world to seek the essence of religion in the heart and soul of man and to lay the main emphasis of the religious life upon conduct rather than upon speculation is unfavorable to the creation

of such conditions, either in Judaism or in Christianity.

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MORRIS JASTROW, JR.,
Professor of Semitic Languages, and Librarian, University of Pennsylvania.

6. THE JEW IN ART, SCIENCE AND LITERATURE. It is a task of much difficulty to describe the influence which the Jews in all ages have exercised on art, science and literature; for a period of more than 3,000 years will have to be considered, while the Jews have not only shared all the great developments of humanity's intellectual life, but have blended therewith the views which are at the basis of their own individuality. The culture of the Jews is bound up with that of antiquity, with Christianity's origin and development, all important movements of the Middle Ages, all grades of development and tendencies of the modern era. While it takes part in the intellectual life of the past and present, whose struggles and sorrows it shares, it becomes a complement of universal culture, but with an organism which aids in its turn the recognition of the universal.

Art.— It is conceivable how a people of such positive monotheistic belief should have only slightly cultivated art. Such cultivation belonged rather to a race which had received the surname of Japhet, or beauty, in the genealogical record of Noah, thus symbolizing its mission. It was, however, the mission of the Hebrews to know God and spread this knowledge throughout the world. The older Talmudists assigned to Hellas the cultivation of beauty, to Judæa that of religious truth. In fact certain lines of art were condemned by the Hebrews, because they led to idolatry, to imitating and deifying nature, which in the Jewish religion was secondary to God, as the world's creator. Poetry, however, chiefly the lyric, and music were zealously cultivated — in these fields they equalled the most important achievements of other races in antiquity or surpassed them in many respects. Unquestionably the Jew's capacity for music is an old inheritance of his race. Architecture, too, with its side-lines, was familiar to the Hebrews, judging from their temples, gardens, pleasure grounds. The plastic arts and painting were not cultivated from religious motives, not from any want of taste or capacity. The mimic art, for a similar reason, was adopted at a late period, but with great success. The dance had been early developed into an art, and with musical accompaniment. Upon the whole, however, the nurture and development of art was neither the task nor the strength of old Israel, which lacked all the conditions to its growth. The period of national prosperity under Solomon and his successors, the most favorable time for such artistic achievements, occurred at too early a stage in the intellectual development of the race, and when this gradually reached its maturity art found little sunshine.

In the Middle Ages.—A similar condition occurred in the Middle Ages, but to a greater degree. Persecution, leading to incessant wandering from city to city, and land to land, prevented any growth of art, even in countries where the Jews enjoyed comparative rest for some centuries. In Spain, of all lands, where they dwelt in free competition with the Arabs, shared joyously the pleasures of life, hardened themselves in knightly exercises, sang and danced, spoke the vernacular like a mother tongue, and participated in intellectual progress, the religious prohibition against idolatry was carried out by the rabbis to the extremest limit. Islam, with its fanatic hostility to plastic art, was a worthy model; not only the representations of the Deity, but that of living beings, man and animal, was not allowed. Yet we hear in Spain of a famous Jewish portrait painter, whose name is unknown; and in Titian's days, on the border lines of the 15th and 16th centuries, we learn of an Italian portrait painter and illustrator, Mose dal Castellazzo, who attained high fame in art-loving Venice and then elsewhere in Italy.

Art in the Synagogue — One form of art was cultivated by the Jews in the Middle Ages — the ecclesiastical. If the synagogue interior was usually free from any decoration, there were exceptions, when this was permitted, if rabbinical authorities assented. One of the most eminent sages in the 15th century allowed painting of forms of animals and plants in the synagogue on the ground that there was no likelihood of the Jew becoming an idolator. Hence we find in the synagogue windows

painted glass and on the walls birds and plants. In some MSS. of prayerbooks and ritual works the illustration is a real adornment—an art that attained great development in the later Middle Ages. The goldsmith's art and silver embroidery employed in the decoration of the scrolls of the law, the curtains, coverings, little bells, goblets, lamps and other objects used in the synagogue, reached high perfection in the ghetto.

In the Modern Era.—As the Jews, first in Germany, in the second half of the 18th century, again participated in the nation's intellectual activity, they devoted their attention to every branch of art. Hardly half a century after their emancipation, they number in Germany prominent painters who rank among the ablest in their profession, like Eduard Bendemann, one of the leaders in the older historical school; Philipp Veit, one of the most brilliant representatives of ecclesiastical art; Eduard Magnus, Julius Muhr, Moritz Oppenheim, whose 'Pictures from the Old Jewish Family Life' have acquired fame; Solomon Hart, the first Jewish Academician in England. In our day Jewish painters are prominent in every land. To mention the most eminent, let us recall the Hollander Josef Israels, the English Academician S. J. Solomon, the Austrian portrait painter Leopold Horowitz, the French historical painter Eugene Vichel, the genre artist Friedrich Friedländer, the Belgian painter Carl Jacoby, with names like Herman Junker, Max Kahn, Louis Neustätter, Felix Possart, Toby Rosenthal,—one of the few American genre painters with a reputation in Europe—the great Swedish painter Geskel Salomon, Nathaniel Sichel, Isidor Kaufmann, Philipp Aarons, Henry Baron, M. Verner, David Bles—the dozen of Dutch painters—Karl Heinrich Bloch, Felix Borchardt, Lajos Bruck, Friedrich Kraus, the Polish historical painter Alexander Lesser, the French idyl painter Emile Lévy, Leopold Pollack, Felix Heinrich and Karl Schlesinger, Gustav Wertheimer, Jules Worms, F. Hirszenberg, Philipp Làszlo, Samuel Hirschfelder, Herman Struck, Isaac Snowman, the American Henry Mosler, Geo. D. M. Peixotto, Ernest Peixotto, M. A. Woolf. In the modern movement, Max Liebermann, Lesser Ury and Louis Corinth are among the leaders. Strange to say, Russia has expelled the most painters. In copper and steel engraving, as in etching, the Jews furnish three of the first masters of this art—Friedrich Fränkel, Louis Jacoby and Henryk Redlich. In America Louis Loeb, Henry Wolf and Jacques Reich have acquired high rank. In sculpture one can mention as pre-eminent the Russian Marcus Antokolski, then the American M. J. Ezekiel and Ephraim Keyser, the French Antoni Adam Solomon, E. Soldi, Em. Hanneaux, L. Astruc; the Hungarian Max Klein, the Belgian Charles Samuel, the German Louis Sussman Hellborn, the Russian Leopold Bernstamm, Henrik Glycenstein, Charles Günzburg. In architecture may be mentioned, in Europe, Max Fleischer, Georg J. Hitzig, W. Stiassny, Richard Wolffenstein, Ludwig Levi, Frederick Marcks, Adolf Wolff, Siegmund Taussig; the American Dankmar Adler, Arnold W. Brunner, Henry Fernbach, Edgar M. Lazarus, S. B. Eisendrath. As medalists and engravers few names surpass in excellence A. Abrahamson, Salomon Bucher, Jacques Karl and Leopold Wiener.

Music.—Through all the stages of his history, music was always close to the Jew. In antiquity it accompanied the Temple service, in the Middle Ages it comforted the home and in the modern era it was to reach high development. The long list of composers, musical artists and directors is opened by the Englishman, John Barnett, and there follow Sir Julius Benedict, Meyerbeer, Felix Mendelssohn-Bartholdy, J. F. Halévy, George Bizet, Anton Rubenstein, Jacques Offenbach, Ignatz Brüll, Karl Goldmark, Frederic Cowen, Ferd. David, Friedrich Gernsheim, Ferd. Hiller, Eduard Lassen, Ignatz Moscheles, Moritz Moszkowski, Siegfried Ochs, Julius Schulhoff, Jules Cohen, Josef Dessauer, Baron A. Franchetti, Ferd. Gumbert, Adalbert von Goldschmidt, Leopold Auer, H. W. Ernst, J. Joachim, E. Reményi, H. Wieniawski, H. and A. Grünfeld, David Popper, H. Herz, M. Rosenthal, Karl Taussig, Karl Heymann, M. J. Gusikow, L. Damrosch, S. Sulzer, Herman Levi, Gustav Mahler, Julius Stern, L. Lewandowski, and the artistes Clotilde Kleeberg, Sophie Jaffe, Ilona Eibenschütz, Berthe Marx, Fannie Bloomfield-Zeisler, the American pianist.

The Stage.—In dramatic art the achievements of the Jew have been conspicuous. Among actors, singers, theatrical directors, managers, in every civilized land, there is a lengthy list of Jewish names. To mention the most prominent, as operatic and concert singers, there are Leopold Demuth, Georg Henschel, Paul Kalisch, Leopold Landau, Nikolaus Rothmühl, Julius Lieban, Heinrich Sontheim, John Braham, Jose Lederer, Pauline Lucca, the sisters Grisi, Lola Beeth, Juditha Pasta, Caroline Gompertz, Rosa Olitzka. Among famous actors and actresses are Rachel Felix and Sarah Bernhardt, Adolf von Sonnenthal, E. Worms, S. Berr, L. Barnay, Anton Ascher, Bogumil Dawison, Ludwig Dessoir, Siegwart Friedmann, Alfred Hertz, Maximilian Ludwig, Gustav Kadelburg, Ernest von Possart, Emrich Robert, Moritz Rott, Emil Thomas. In America, the names of Aaron J., Jonas B. and Moses J. Phillips, Mordecai Noah, Emanuel and S. B. H. Judah occur in the early history of the American stage as playwrights and actors, and in more recent days the Wallacks, Madeline Henriques, both of Jewish origin, David Warfield, H. Conried, Jacob Adler.

Science.—"Knowledge and understanding" were ever regarded in Israel as the highest palladium from the earliest ages of its national history to the present day. The priest was the community's teacher and physician as well. In later times, when the different sciences were separated from each other more and more, the rabbis of the Talmudic era not only recommended such avocations to the faithful, but zealously devoted themselves to such pursuits. Many Talmudic teachers were physicians, astronomers, mathematicians, jurists. In the Talmud principles of geometry are stated, which agree with the modern rules. Its computation of the calendar rested upon the finest astronomical observation. The number of bones in the human body is given exactly as in modern anatomy. In the Middle Ages the Encyclopedia of the Sciences included chiefly three disciplines—astronomy, which was connected with mathe-

matics and geometry, medicine and philosophy. In all these fields the Jews have accomplished much, in some degree they have been pioneers, particularly in Spain and North Africa, where they could develop unchecked. The foundation of mediæval mathematics — the 'Almagest,' of Ptolemy, and of mediæval botany — the 'Plant Lore' of Dioscorides, Jews brought to Europe. It was Abraham (b. Chija) who wrote the first textbook of geometry that Europe could boast of; it was a Jew who brought to Europe the Arabic-Indian numbers; a Jew whose observations on the inclination of the earth's axis cleared the way for the immortal astronomer who, as he arranged his system of the world, had to have translated into Latin the Arabic writings of that Jew, Jacob ibn Machir. A French Jew furnished an approximation for incommensurable numbers; a Spanish Jew was the first to apply decimal fractions in the extraction of the square root. As Jewish astronomers, among the Arabs, are mentioned Maschallah, Sahl el Taberi, Sind ben Ali, Ibn Simaweih, etc., through whom the Arabs already in the 8th century became acquainted with Indian medicine and astronomy, before the Greek sciences had been introduced. Natural philosophy and medicine, mathematics and astronomy, formed often the transition from the *halakha* to the *hagada,* and knowledge of these sciences could not therefore have been unknown to the teachers of the law.

Medicine.— Jews have performed the most important service in the department of medicine. Masergeweih (683) translated from the Syrian into Arabic the 'Pandects' of the Presbyter Aaron, a valuable medical work of antiquity. Nearly all the works of the Greeks and Arabs, the Syrians and Indians, the Nestorians and Christians, were brought to Europe by Jews and thus rescued from oblivion. These very writings were then, mostly by Jews, again translated into Arabic. More than 200 such translations have been restored by modern bibliography out of the dust of libraries. Their activity was precious for the history of the sciences in the Middle Ages. Entire families like the Tibbon and the Kalonymos occupied themselves in such work. It is stated that Jews were the first teachers of medicine at the first European high schools of Salerno and Montpelier. Whether this is a fact or not it is in every case proved, what the history of medicine illustrates, that the labors of the Jews in this field during the first half of the Middle Ages belong to the greatest achievements in that science, which without such activity could hardly be thought of as existing. In those days, too, Jews were body-physicians of popes and emperors, of sultans and notabilities in many countries.

Present Day Medical Scientists.— To-day this tendency has been naturally strengthened, with the result that in all lands Jews are among the most eminent physicians and medical investigators. We need mention only the names of Ludwig Traube, Herman Senator, August Hirsch, Jacob Henle, Eduard Henoch, Albert Neisser, Robert Remak, Julius Pagel, Karl Störk, Emil Zuckerhandl, Johann Schnitzler, Adolf Politzer, Paul Ehrlich, Julius Cohnheim, Wilhelm Ebstein, H. Zeissel, Jac. Fischel, August Wasserman, Ludwig Mauthner, Karl Weigert, Victor Birch-Hirschfeld, John Lebert, Heinrich Jacobson, Julius Wolf, Jacob Gottstein, in Germany; Germain Sée, Georges Hayman, Siegmund Rosenstein and Jacob Stokvis, in Holland; Sir Felix Semon, in London; G. Valentin and Moritz Schiff, in Switzerland; Gottlieb Cluge, in Belgium; Max Mandelstamm, Josef Bertenson, in Russia; Elias Cohen-Pasha, in Turkey. In the United States it would be no exaggeration to say that 50 names and more could be cited of Jewish physicians and medical experts who are leaders in their profession in every city and included in college faculties. It was Dr. Simon Flexner, who was chosen director of the Rockefeller Institute of Preventive Medicine. Of German physiologists we might mention among the authorities Julius Bernstein, Herman and Immanuel Munk, Nathan Zuntz, Isidor Rosenthal.

Natural Sciences.— In the natural sciences, Jews number distinguished names in the varied lines of research. The most famous botanists are Ferdinand Cohn, N. Pringsheim, Julius Sachs. Among the eminent chemists are Victor Meyer, whose discoveries were remarkable, Adolf Pinner, Rafael Meldola, Karl Liebermann, Oscar Liebreich, Georg Lunge, H. G. Magnus. As geologists, mineralogists and palæologists one may include Emil Cohen, Angelo Heilprin. In physics a name of international prominence is Heinrich Hertz, famous for his discoveries in electricity and magnetism, with F. J. Pisko, P. T. Ries, who was the first Jewish Academician in Germany, and Arthur Schuster in England. As zoologists, we can refer to Mendelssohn's contemporary, M. E. Bloch, to Emil Selenka, H. Gabriel, E. Ladenburg, G. Lehfeld, Leo Graetz.

Mathematics.— For centuries Jews have studied mathematics. Their sagacity, gift of combination, power of thought, have won signal success. The rabbis of the Talmud had mathematical ability. In the Middle Ages the science of mathematics was preparation for philosophy. In this field Jews were intermediaries and translators, as well as independent authors. They were employed in editing the Alfonsine Tables — the chief being Isaac Ibn Sid, with Judah b. Salomo Cohen and Samuel Levi. One of the leading mediæval Biblical commentators, Abraham Ibn Ezra, was regarded by the Catholic Middle Ages as patron of mathematics. In later centuries Jews displayed similar interest in that science, and to-day they number leaders in the line. For instance, we may mention Leopold Kronecker, Felix Klein, Immanuel Fuchs, S. Spitzer, W. Königsberger, Meyer Hirsch, Georg and Mortiz Cantor, Oscar Minkowski, J. Rosanes, G. Schönfliess, S. Weingarten, Ch. Slonimski, Herman Schapiro, Maurice Levi, J. J. Sylvester. In astronomy can be included Wilhelm Beer, Wilhelm Goldschmidt, Adolf Hirsch, Robert Rubenson, E. Schwarzschild, Prof. Harold Jacoby, of Columbia University.

Travel and Exploration.— To turn from traversing the skies with the telescope to traversing the earth in the interests of scientific research, we find a large number of Jewish travelers who have penetrated distant lands. From the legendary Eldad-ha-Dani of the 9th century, Benjamin of Tudela, and Petachia of Regensburg down to the men who shared the sea-journeys of the Portuguese, the Spaniards and the Italians, and accompanied Columbus

and Vasco de Gama, to our time, a lengthy list could be given. In recent times can be mentioned J. J. Benjamin, Jacob Saphir, J. Halevy, while among explorers are Emin Pasha, Emil Bessel, Oscar Neumann, Eduard Glaser, Herman Vambéry, Edouard Foá, Adolph Strauss, W. G. Palgrave (of Jewish descent), and in America Angelo Heilprin and Franz Boas, who is associated with Arctic research. In this connection may be recalled the labors of Jews in engineering, science and invention, etc., with Jos. Hirsch, Maurice Levy, J. Bachman for France, E. Herman and G. Schlesinger for Germany, Mendes Cohen, Emil Berliner, Elias E. Ries, Albert Edward Woolf, E. Zalinski for the United States. Here, too, may be included prominent names in numismatics, statistics and economics. In the latter branch Profs. E. R. A. Seligman and J. H. Hollander are authorities in the United States; A. Raffalovicz in Russia; L. Luzzatti, Leone Wollenberg in Italy; as statisticians, Maurice Block is pre-eminent in France, Josef Körösi in Hungary, while Leone Levi did useful work in England. Here belong the founders of modern Socialism — David Ricardo, Karl Marx, Ferdinand Lassalle, E. Bernstein, with J. Jastrow, Max Hirsch, Edgar Loening, E. Warschauer, Ludwig Hamburger. As numismatists we can refer to Julius Friedländer, Wilhelm Löwy, A. Merzbacher, Leopold Hamburger, M. A. Levy.

Law.— Biblical and Talmudic legislation shows clearly that the Jews from olden days showed special inclination toward law and its interpretation. Coworkers in the compilation of the Pandects, they furnish distinguished jurists, judges and lawyers. In France they can point to Adolphe Cremieux, August Bédarrides, A. Lyon-Caen; in England to Sir George Jessel, Sir George Lewis, J. Waley, Earl Reading; in Holland to the Assers, Goudsmit, Gódefroi; in Germany and Austro-Hungary, to Eduard Gans, Levin Goldschmidt, Paul Laband. Karl Grünhut, Herman Staub, Heinrich Harburger, Heinrich Wiener, H. Friedeberg, H. Makower, Eduard von Simson, Wolfgang Wessely, David Rubi, Ferd. Frensdorf, Julius Unger, Max Neuda, H. Dernburg, J. Glaser; in America they include a number of State and city judges.

Philosophy.— Recent writers call the Jews "the people of philosophy," and in fact to reflect on the highest questions of life has ever been their custom. Philosophy was regarded among them as one of the weightiest sciences — both during the Middle Ages and to-day. We have to thank the Jews for the diffusion in Europe of Neo-Platonism, for being intermediaries between the Arab and Christian philosophy, for the basis of Scholasticism, the popularizing of Greek philosophy in Europe, and the birth of a new conception of the universe. In the construction of this new-world philosophy, above all else in spreading the systems of Kant, Hegel and Schopenhauer, Jews have taken a conspicuous part. Among the Alexandrian philosophers Philo is pre-eminent, Solomon Ibn Gabirol opened a new path for Platonism, and was Scholasticism's pioneer, Moses Maimonides raised Aristotelianism to speculative heights. (See article JEWISH PHILOSOPHICAL WRITERS in this section). Baruch Spinoza was influenced by him and later investigators, who were more inclined to mysticism. Jews were associated with the achievements of the Renaissance and Humanism, because they were teachers of the leaders of those movements. It was Moses Mendelssohn who popularized philosophy. Markus Herz and Salomon Maimon, Lazarus Bendavid, were enthusiastic supporters of Kant, whose most important representative in the new philosophy is Prof. Hermann Cohen of Marburg. The founders of the school of folk-psychology, Moritz Lazarus and H. Steinthal, champion Herbart's philosophy. Hegel's best followers were Eduard Gans and Julius Braniss; Schopenhauer's most ardent disciples, Julius Frauenstädt, D. Asher, Moritz Venetianer. In addition belong to philosophy Ludwig Stein, H. Bergson, Adolph Lasson, S. L. Steinheim, Adolphe Franck, S. Alexander.

Philology.— In the line of language, too, the Jews have labored with zeal. They count among the foremost workers in philology, as well as in literary history and bibliography. A brief summary of names will be sufficient proof — such as G. Ascoli, Jules Oppert, Jacob Bernays, Theodor Gompertz, Michele Amari, Theodor Benfey, M. Breal, James and Arséne Darmesteter, Jos. and Hartwig Derenbourg, H. Weil, W. Freund, Julius Fürst, Lazarus Geiger, Theodor Goldstücker, Ignatz Goldziher, J. Halévy, Wilhelm Bacher, H. Hirschfeld, S. Landauer, Gustav Weill, A. Harkavy, Salomon Munk, Adolf Mussafia, Daniel Sanders, S. Benedetti, L. Kellner, I. Gollanz, and in the United States, Marcus Jastrow, Alexander Kohut, M. Bloomfield, and a number of younger scholars who have done much to arouse interest in Semitic studies at American universities.

History.— In the Middle Ages history was neglected — they had no time to write their history, for before their old sufferings were narrated, new trials were to be endured. A few chronicles alone survive, with some Memor. Books. From the historian Josephus, of the 1st century, to our time, Judaism has produced no eminent historian of the outside world. With so much more zeal have Jews in more recent years devoted themselves to this department, men like Philipp Jaffé, Martin Philippson, Max Büdinger, Harry Bresslau, Samuel Sugenheim, Alfred Stern, Adolf Beer, Ernst Bernheim, Jacob Caro, Heinrich Friedjung, Salomon and Theodor Reinach, Julius Schwarz, Cesare d'Ancona, Alfred Przibram, E. Szanto. Samuel Romanelli is the historian of Venice, and Robert Davidson of Florence. Charles Gross, of Harvard, is an authority on early English history, as is Felix Liebermann on English law. In the history of the Jews in its varied departments Jewish scholars have naturally displayed particular ability — one need only mention names like Graetz, Zunz, Jost, Steinschneider, Geiger, Kayserling, Güdemann, A. Berliner. In the closely-allied branch of archæology, Charles Waldstein is a pre-eminent name, with B. Berenson in art criticism.

Literature.— In its earliest historical period Israel gave to humanity its best achievement in literature—the Bible, which with prophets and psalmists, despite the latest discoveries and researches, remains without a peer in the entire stretch of the world's literature. Since the close of the Canon until to-day the Bible has furnished a wealth of inspiration to the

poets and writers of every race. The greatest poets in the world have been impelled by its words; it has exerted a distinct influence on the literary genius of every European literature, and how much plastic art is its debtor is far from being appreciated.

In the Early and Middle Ages.— The first translation of a book into another language was the Greek translation of the Bible — the Septuagint. This leads us to the participation of Jews in Greek literature. Of Philo, who has already been mentioned, it was said in Alexandria that he wrote as fine Greek as the divine Plato. Then lived, too, the first Jewish dramatist, Ezekiel; then a long line of philosophers, poets, historians, the author of the Sibylline books, and many other writers in Greek. In the Middle Ages the Jews familiarized themselves with Arabic literature, under whose influence the new Hebrew poetry in Spain developed. What Arab and Jew united in those centuries accomplished is not to be overlooked. They rescued the treasures of classical antiquity from oblivion and preserved them for posterity; they enriched the arts and sciences and truly promoted the intellectual growth of humanity. Jews appear, too, among the Arab poets, like Abraham Ibn Sahl, who is praised by them as one of the most graceful singers of love, Ibn el Mudawwer, Kasmune, etc. The Indian and Greek world of fable was communicated to Europe by Jews. During the entire Middle Ages, when the old literary treasures were practically lost, they preserved almost the only knowledge of those romances, stories and fables which were to enter modern literature by a roundabout way through Arabia and Spain from the world of the ancients and the pictured pomp of India. They took a prominent part in those stories from the Orient, which still serve as material for our narrative literature. Later, too, when the Mohammedans were driven from Spain, the Jews displayed a lively interest in the development of the Arabic literature and language. A Moorish Israelite, Ibn Alfange, wrote the first 'Chronicle of the Cid'; another the first Spanish romance; a third — the baptized Petrus Alphonsus — the first story in Oriental manner, 'Disciplina Clericalis'; a fourth was the first Castilian troubadour, Santob de Carrion; and a fifth, Rodrigo de Cota, is credited with the authorship of the first Spanish drama 'Celestina.' In the Spanish songbooks of the 15th century can be found many poems of baptized Jews. At the same era Jews were familiar with French literature. From the glosses of Rashi, the famous Biblical commentator, the old French language has been partly reconstructed; and Rashi's contemporaries, who through Nicolas of Lyra directly influenced Luther, already knew German and utilized that language. At the very period when the Jews in Germany were persecuted in the cruelest fashion, there lived a Jewish minnesinger, Süesskind von Trimberg; a Jew shared in the authorship of 'Percival.' Their epics and elaborations of romantic legends aid to-day in interpreting old German literature.

In Modern Times.— When through Lessing and Mendelssohn the Jews in literature, at least, were emancipated, they devoted themselves to authorship with special zeal. Jewesses, like, Henriette Herz, Rachel Varnhagen von Ense, Dorothea Veit, founded the Berlin Salon and gave distinct impetus to Romanticism. Moses Mendelssohn was not only a philosopher, but one of the first authors in the era of rationalism. Heine is unquestionably the greatest German lyric poet after Goethe, Ludwig Börne the first German critic after Lessing. Berthold Auerbach founded the school of village tales; Fanny Lewald that of the woman's social romance. Jews have taken marked interest in all later literary movements. One may mention in this field the German authors, Karl Beck, Michael Beer, Theodor Creizenach, L. A. Frankl, Leopold Kompert, Karl Emil Franzos, E. Kulke, Moritz Hartmann, L. Kalisch, S. Kapper, Hieronymus Lorm, S. H. Mosenthal, Max Ring, Ludwig Robert, J. Rodenberg, August Silberstein, M. G. Saphir, H. Stieglitz, Daniel Spitzer, J. V. Weilen, L. Wihl, O. L. B. Wolff, Wilhelm Wolfsohn; and of later writers Theodor Herzl, L. Hevesy, A. L'Arronge, F. Lubliner, Fritz Mauthner, Oscar Blumenthal, Max Bernstein, J. J. David, L. Fulda, Max Nordau, Georg Hirschfeld, Felix Holländer, L. Jacobowski, J. Löwenberg, A. Schnitzler, J. Wassermann, Ernst Rosmer, Henriette Ottenheimer, Lina Morgenstern, Betty Paoli, Jenny Hirsch. In the history of literature Ludwig Geiger, Richard M. Meyer, Gustav and Otto Hirschfeld, Otto Pniower, Max Hermann, Eduard Engel, Max von Waldberg, E. Wolff can be mentioned.

In France Jews contribute to all branches of poetry — in dramatic composition may be included Catulle Mendes, Abraham Dreyfus, Ernest Blum, Leon Halévy, A. d'Ennery, A. Valabrègue, and as lyric poet León Gozlan, Gustav Cahn, Eugène Manuel, Louis Ratisbonne. In England Sir Philip Magnus has written extensively on education, Joseph Jacobs is an authority on folklore, Sidney Lee is a leading Shakespeare scholar, Emanuel Deutsch was the first to tell the English world what the Talmud really was, B. L. Farjeon was a voluminous novelist, while I. Zangwill is prominent in various lines. In Italy one may point to Alessandro d'Ancona, David Levi, Tullo Masserani, Erminia Fuá; in Denmark to Henrik Hertz, M. Goldschmidt, Georg and Eduard Brandes, Silvia Benet; in Sweden to O. Levertin and Sophie Elkan; in Holland to Isaac d'Acosta of the past and H. Heijermans of the present; in Russia to S. Frug, S. Nadson, N. Minsky; in Rumania to Ronetti Roman, the greatest poet of our day, and to H. Tiktin, the greatest philologist; in Hungary to Ludwig Doczi, Josef Kiss, Adolph Agai, A. Nemény, all writers of distinction. In the United States Isaac Harby, Mordecai M. Noah are names of the past; with Emma Lazarus admittedly the leading poet and essayist, and among present-day story-writers I. K. Friedman, Ezra S. Brudno, Emma Wolf, Miriam Michaelson, Martha Wolfenstein, Mary Moss, Abraham Cahan, Montague Glass. Prof. L. Wiener has written on the history of Yiddish literature, Oscar S. Straus on 'The Origin of the Republican Form of Government,' and 'Roger Williams.' Professor Winkler has edited a number of German classics. In journalism Jews have undoubtedly attained prominence, as names like L. Sonnemann, Dernberg and Bernstein in Germany, Brody in Hungary, Lawson and Lucien Wolf in England, Pulitzer, Ochs, Rosewater, De Young in America, amply prove.

We have given merely a survey, necessarily

incomplete, of Jewish activity in art, science and literature, in all ages and among all nations. It has been shown, however, with sufficient clearness that they have always striven with ardent enthusiasm for ideal aims, and with marked energy, despite unfavorable conditions, have taken an active interest in all the developments of the world's intellectual life.

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Science.— Steinschneider, 'Die hebr. Uebersetzungen des Mittelalters'; Güdemann, 'Gesch. der Cultur und des Erzieh. bei den Juden'; M. J. Schleiden, 'Die Verdienste der Juden für die Erh. der Wiss. im Mittelalter'; I. Abrahams, 'Jewish Life in the Middle Ages'; A. Kohut, 'Berühmte Israel Männer und Frauen,' etc.

Literature.— Steinschneider, 'Jewish Literature'; G. Karpeles, 'Jewish Literature and Other Essays'; and his 'Allgem. Gesch. der Litteratur.'

GUSTAV KARPELES,
Author of 'Jewish Literature and Other Essays.'

7. THE TALMUD, a code or digest of Jewish laws and opinions. The Talmud is in reality a combination of two entirely separate works — the Mishna being the text and the Gemara its commentary. The name signifies "study," and has come to be applied to the combined text and commentary, although it refers properly to the Gemara alone. There are two recensions of the Gemara, one called the Palestinian Talmud, originating in Palestine, the other Babylonian, in Babylon. They differ both in language and contents. There are only slight variations in their respective Mishnas.

The Mishna.— The word Mishna has been differently interpreted, according to its etymology, either as "second" or as "doctrine," oral teaching. It is a codification of the oral or unwritten law, based upon the written law of the Torah or Pentateuch, and was compiled during the era of the second Temple, and completed at the end of the second Christian century. As in course of time the oral law became unwieldy in bulk and hard to be remembered, owing to its lack of order and arrangement, Hillel, who presided over the Sanhedrin in Herod's days, made the first attempt to systematize the immense mass of material by arranging it in six divisions, which were accepted by later revisers. Rabbi Akiba, who participated in the Bar Cochba revolt, went a step further by employing a more correct method of division. His disciple, Rabbi Meir, continued the work of revision, or, rather, collation, of old-time usages and teachings. Toward the end of the 2d century, R. Judah, the Prince, called "Rabbi," a descendant of the wise Hillel, strove to complete the work of his predecessors, sifted anew the mass of traditional ordinances, and became, by his intellectual vigor and freedom. the real compiler of the Mishna. In his later years he subjected the work to further revision, although some additions after his death were made by others. Whether Rabbi wrote the Mishna or merely transmitted it orally to his disciples is not definitely known, and has long been a moot point among scholars, with the probability in favor of his having written the work.

Divisions of the Mishna.— The Mishna is divided into six chief sections, called Sedarim or Orders: (1) Zeraim, seeds or products of the field, containing the ritual laws respecting agriculture. (2) Moed, Festival, referring to laws of the Sabbath and festivals. (3) Nashim, Women, including rules about marriage and divorce. (4) Nezikin, Damages, a large section of the civil and criminal law. (5) Kodashim, Sacred Things, discussing the laws of sacrifice and the Temple service. (6) Teharoth, Purification, treating of regulations as to things clean and unclean. Each Order is divided into Masechtoth, or treatises, which are 63 in all in the Mishna. Each treatise is subdivided into chapters, or Perakim, and each chapter or perek into paragraphs, each of which is called Mishna or halakhah, law principle. The arrangement of the Orders is fixed, although the sequence of treatises, chapters and paragraphs is more open to question.

Contents of the Treatises of the Mishna. —The best way to describe the subject matter of the Mishna is to give a list of the various treatises and their contents. These are as follows, according to the six Orders: I (1) Berakhoth, benedictions, treating of liturgical rules. (2) Peah, corner, about the corners and gleanings of the field. (3) Demai, uncertain, about corn bought from those suspected of not having given tithes. (4) Khilayim, mixtures, about the prohibited mixtures in plants, animals and garments. (5) Shebiith, the Sabbatic year. (6) Terumoth, heave offerings for the priests. (7) Maaseroth, tithes to be given to the Levites. (8) Maaser Sheni, the second tithe, according to Deut. xiv, 22–26. (9) Challa, the dough, to be given to the priests, as ordered in Num. xv, 20–21. (10) Orla, treating of the fruits of the tree during its first four years, as commanded in Lev. xix, 23–25. (11) Biccurim, or first fruits. The contents of Order II: (1) Sabbath, giving an account of labors prohibited on that day. (2) Erubin, combinations, continuing the subject of the preceding treatise and referring to the Sabbath boundary. (3) Pesachim, relating to the laws of Passover and the paschal lamb. (4) Shekalim, the law of the half-shekel temple tax. (5) Yoma, of the day of Atonement. (6) Sukkah, of the laws concerning the Feast of Tabernacles. (7) Betsah, of the work permitted or prohibited on the festivals. (8) Rosh Hashonah, of the feast of the New Year. (9) Taanith, as to the public feasts. (10) Megilla, the scroll, about the reading of the book of Esther on the feast of Purim. (11) Moed Katan, minor feasts, referring to the intermediate days of the festivals of Passover and the Feast of Tabernacles. (12) Chagiga, feast offerings, referring to the private offerings on the three pilgrim festivals. Order III: (1) Jebamoth, sisters-in-law, about levirate marriage. (2) Khetuboth, marriage contracts, of dower and marriage settlements. (3) Nedarim, as to vows and their annulment. (4) Nazir, of the laws concerning Nazarite. (5) Sotah, about the woman sus-

pected of infidelity, according to Num. v, 12–31. (6) Gittin, the laws of divorce. (7) Kiddushin, of betrothals. Order IV: (1) Baba Kama, of damages and injuries. (2) Baba Metsia, of laws concerning found property, buying and selling, lending, hiring and renting. (3) Baba Bathra, of real estate, trade and hereditary succession. (4) Sanhedrin, of courts, their procedure, and capital punishment. (5) Maccoth, stripes, referring chiefly to false witness and its penalties. (6) Shebuoth, oaths, about the various kinds of oaths, private and public. (7) Eduyoth, testimonies, laws and decisions collected from the testimonies of famous teachers. (8) Abodah Sara, idolatry, of idols and their worshipers. (9) Aboth, a collection of ethical sentences from the fathers or Mishna teachers. (10) Horayoth, decisions, as to the effect of erroneous decision by a religious authority, according to Lev. iv, 5. Order V: (1) Sebachim, sacrifices, of animal sacrifices and the mode of offering. (2) Menachoth, meat-offerings, about meat and drink offerings. (3) Chullin, of the methods of slaughtering animals for food and of the dietary laws. (4) Bekhoroth, of the laws concerning the firstborn. (5) Arakhin, values, as to how things or persons dedicated by vow are legally appraised to be redeemed. (6) Temurah, exchange, of the laws about dedicated things which have been exchanged, according to Lev. xxvii, 10–27. (7) Kherithoth, excisions, of the sins subject to the penalty of excision and their expiation. (8) Meila, trespass, concerning the sins of profaning sacred things. (9) Tamid, the daily sacrifice, a description of the Temple service connected with the daily morning and evening sacrifice. (10) Middoth, measurements, giving chiefly the measurements and description of the Temple courts, gates and halls. (11) Kinnim, birds' nests, an account of the sacrifices which consist of fowls, the offering of the poor. Order VI: (1) Khelim, as to how domestic vessels become unclean ritually. (2) Ohaloth, tents, as to how tents and houses become ritually unclean. (3) Negaim, of laws as to leprosy of men, garments and houses. (4) Parah, the heifer, treats of the red heifer and its ashes as a purifying agent. (5) Teharoth, purification. (6) Mikvaoth, wells, how wells and reservoirs are fit to be used for ritual purification. The remaining six treatises concern various kinds of ritual uncleanness.

The Mishna Rabbis.— The men who are mentioned as authorities in the Mishna are among the most notable names in Jewish history for about five and a half centuries from the era of the scribes to the death of Rabbi (210). They include the scribes of Soferim, who succeeded Ezra, and continued for about two centuries, the teachers who headed the Sanhedrin in pairs from the Maccabean struggle until the period of Hillel and Shamai, and finally the disciples of the two latter and their successors. These were called Tanaim teachers, whose opinions extend over fully two centuries, and whose disputations reveal marked intellectual keenness. Another class of rabbis received the name of Amoraim, speakers or expounders, whose labors were carried on in the schools of Tiberias, Sepphoris and Cæsarea in Palestine, and in Nahardea, Sura and Pumbaditha in Babylonia. Their province was to explain the terse Mishna phrases, examine into their sources, reconcile apparent contradictions and apply the traditional principles to new cases. The Palestinian Amoraim were titled rabbis, the Babylonian rab or mar. They date from the death of Judah the Prince to the end of the 5th century, which marks the compilation of the Babylonian Talmud. They number several hundreds, while their predecessors, the Tanaim, amounted to about 120.

The Gemara.— The name Gemara, which means completion or doctrine, which has come to be used interchangeably with Talmud, is practically a commentary on the Mishna, although some of its elements may be older. It embraces the discussions and interpretations of the Amoraim, but contains in addition a vast bulk of matter often unconnected with the Mishna text and touching upon law, history, ethics and homiletics. The Palestinian Talmud, the work of the schools and schoolmen of Palestine, was more distinctly national, being composed on Jewish soil, and was completed about 370, although a later date is claimed by some. The Babylonian Talmud was finished about a century later. If rabbis like Jochanan, Rab and Samuel were pioneers in the work, others gave the finishing touches, men like Rabba (270–330), Abayi (280–338) and Rava (299–352), while Ashi (352–427) and Rabina (d. 499) are associated with its actual compilation. The Palestinian Gemara in its present form extends only over 39 out of the 63 treaties of the Mishna, thus indicating a probable loss of many treatises. The deficiency may partly be due to persecutions which abruptly closed the schools in Palestine, and partly to the fact that the Palestinian Gemara hardly received the favor and attention which commentators have given to the Babylonian. It is stated that Ashi devoted 30 years to the task of compilation and then revised the entire work. His Gemara covers only 37 of the treatises of the Mishna.

The Two Gemaras Compared.— The Gemaras differ in language, style and method. The Mishna is in new Hebrew, which was developed during the era of the second Temple. While the popular language was Aramaic, the ancient Hebrew was retained for the liturgy and legal forms. Contemporary languages had their influence on it, and the Aramaic, Greek and Latin were drawn upon and modified by the Hebrew idiom. In regard to the Palestinian Gemara, the language is the West Aramaic, which was current in Palestine in the age of the Amoraim. The language of the Babylonian is a blend of Hebrew, East Aramaic and Persian, with other dialects whose decipherment is often attended with much difficulty. Of the main elements of the Gemara, the halakhah or abstract law element, and the hagadah or legend, the former is more fully represented in the Palestinian, while the latter is more at home in the Babylonian edition. In size the Palestinian is about one-third of the Babylonian, and only in modern times has aroused the attention of Jewish scholars. The study of the Babylonian Talmud, however, flourished in North Africa and thence passed to Spain, France, Germany and Poland and was ever a subject of interest and devotion. It gave rise to a vast library of rabbinical literature. Not the least curious incident connected with the spread of this study is that the four messengers sent by the schools of Babylonia in their days of decline to collect funds from their

richer brethren in other lands were taken captive by the Spanish pirates and sold in different slave-markets. All were redeemed by their co-religionists and they became the heads of the community at Cairo, Kairwan in Africa, Cordova and possibly in Narbonne. Among names eminent in the diffusion of Talmudic learning from the East to the West after the era of Sherira Gaon, his son Hai Gaon and Samuel bar Hophni, were Gershom ben Judah of Metz, Isaac of Troyes, Jacob ben Yakar of Worms, Nathan ben Jechiel of Rome, Isaac ben Judah of Mayence and the famous Rashi, his sons-in-law and disciples. After the expulsion of the Jews from England (1290) and France (1306), Poland became a favored home for them and a seat of Talmudic learning whose glory has not yet been extinguished, although in other lands such lore is less cultivated. Of recent years, however, a fresh impulse has been given to Talmudic studies both in Europe and the United States.

The Talmud in History.— The history of the Talmud is essentially a history of the religious and intellectual development of the Jews, which has been elsewhere treated. A spiritual temple arose among the Israelites when the Temple at Jerusalem had been destroyed by the Romans. The Talmud's history, however, is an important theme, and a brief glance at the varying fortunes of this volume will show the continuous persecution which it has received, like the Jew himself. It was proscribed by state and church, mutilated by the official censor, condemned by councils, burned by popes and kings. Earlier centuries show a scattering fire of fulminations against it, from the era of Justinian, but the Middle Ages were persistent in such incidents of violence. In 1240 the Jews of France were compelled to surrender their copies of the Talmud and the work was put on trial, the result of which was that it was ordered to be burned. Twenty-four carloads of the Talmud and similar writings were seized by Saint Louis and publicly burned in Paris in June 1242. The anniversary was held as a fast and elegies were written on the event. Barcelona had a four days' trial of the Talmud on 20 July 1263. In 1264 Clement IX issued a bull of confiscation and subjected the Talmud to examination by the Franciscans and Dominicans, who expunged what they deemed abusive and blasphemous. Tortosa, Aragon, witnessed a public trial of the Talmud, which lasted from February 1413 until 12 Nov. 1414 and had 68 sessions. Pope Benedict XIII presided, condemned the work to the flames and prohibited its further study. His bull of 11 clauses issued 11 May 1415 never came into effect, for he was deposed by the Council of Constance. The hue and cry against the Talmud in the beginning of the 16th century was to have a marked influence on the Reformation and to pave the way for a Hebrew renaissance. On 19 Aug. 1509 the Emperor Maximilian gave Pfefferkorn full power over the Talmud and similar works; but when he demanded their surrender the Jews of Frankfort appealed to the archbishop of Mayence, who temporarily checked the Dominicans. Reuchlin, the head of the Humanists, was asked to describe the character of the Talmud and by him it was vindicated. Hutten and the author of 'Epistolæ Obscurorum Virorum,' lampooned Hoogstraten and the Dominicans. The Talmud gained new adherents, including Erasmus and Franz von Sickingen. The universities were appealed to for their opinion and the University of Paris condemned the Talmud. Finally the subject was brought before the Lateran Council and the Dominicans were compelled to pay the costs of their suit against Reuchlin, while Leo X permitted the Talmud to be printed by Daniel Bomberg at Venice. It was in the very year of the *editio princeps* of the Talmud (1520) that Luther at Wittenberg burnt the Pope's bull. On 12 Aug. 1553 Pope Julius III signed the decree laid before him by the Inquisition-General, condemning to confiscation and the flames throughout Italy all copies of the Talmud and Hebrew books. Paul IV continued hostile, but Pius IV modified somewhat the harsh laws of his immediate predecessors. His bull (24 March 1564), in accordance with the decision of the Council of Trent, allowed the Talmud to be printed provided its name were omitted and it had been submitted before publication to the censor. The mutilations of the Talmud in accordance with the whim of an ignorant censor were often very curious; that the word heathen can refer to a non-Christian and that the Rome of the early rabbis was not the Rome of the papacy did not dawn upon the intelligence of the learned inquisitors. A brighter day was now to follow, with the Hebrew renaissance. In Holland, England and Switzerland, Talmudic studies attracted a host of scholars, and the Buxtorfs, L'Empereur, Sheringam, Selden, Surenhuys, were among those who strove to popularize rabbinical lore and who were to be succeeded by a host of learned men down to our own day — translators and interpreters in varied fashion. It is true, the Talmud was now and then subjected to condemnation; as recently as 1757, a large number of copies were burned in Poland by fanatics. Germany, too, during the wave of anti-Semitism, revived old-time accusations. But the Talmud has survived the storm and Christian scholars like Franz Delitzsch, August Wünsche, H. L. Strack and W. H. Lowe have joined with a host of Jewish scholars in its vindication and interpretation. After all its vicissitudes, it seems to have found rest as a distinct addition to the world's culture. Pope Clement's proposal in 1307 to found Talmudical chairs at the universities has been adopted to some extent in Europe and America.

Talmud Manuscripts, Editions and Translations.— It is not to be expected that many manuscripts of the Talmud have been preserved after its experiences during the Middle Ages. The bonfire at Cremona in 1559, in which 12,000 volumes of the Talmud were burned, was only one of such incidents. The only known complete manuscript of the Babylonian Talmud, 1369, is in the Royal Library of Munich. Codices of single portions are preserved in the Vatican Library and in the libraries at Oxford, Paris, Leyden and other cities of Europe. Columbia University has secured from South Arabia a collection of manuscripts containing four treatises which date from 1548. The University Library of Cambridge, England, has a fragment of the Talmud Pesachim, from the 8th or 9th century, edited in 1879, with an autotype facsimile by W. H. Lowe. Manuscripts of the Mishna or portions of it are found in a few libraries

abroad. The only manuscript of the Palestinian Talmud of any importance is to be found in Leyden. As to printed editions of the Mishna, the first appeared (1492) in Naples and has since been followed by numerous others. In Venice (1520–23) appeared the first edition of the Babylonian Talmud by Daniel Bomberg in 12 folio volumes and it has been followed by many editions in Venice, Basel, Amsterdam, Berlin, Warsaw, Vienna, etc. Only four complete editions of the Palestinian have appeared, Bomberg's Venice edition of 1523–24 being the first. Several parts, however, have been issued with commentaries. The Mishna has been translated into Latin and German and partially into English. Translations of single treatises of the Babylonian Talmud have appeared in Latin, German, French and English. At present complete translations of the work are being attempted in Berlin and New York. Special monographs have appeared on the medicine of the Talmud, its mathematics, its botany, zoology, astronomy, civil and criminal law, its legends, its archæology, meteorology, coins and weights, chronology and calendar, its customs, ethics and psychology, its exegesis, geography and history, linguistics, education, its superstitions and philosophy, its poetry and proverbs—an extensive list that proves how comprehensive is the work and how many-sided the old-time sages who fought and wrought until the fabric was finished. Out of its mines the workmen are still bringing fresh gems to light and its deep lying strata furnish an inexhaustible field for research in almost every department of human knowledge.

The Talmud's Influence.— On the Jewish people the influence of the Talmud has been remarkable, not only by maintaining religious ideas among them, but by promoting their solidarity. Its development illustrates the buoyancy of Judaism and the ease with which at a time of national overthrow and dispersion a fundamental reform could be instituted. It was a darings design, when so much of the Mosaic law had lost its application, to infuse new life into the religious code and provide for continuous intellectual development. The soldiers who defended Jerusalem became scholars whose labors were to be more successful in the field of progress and thought. The Talmud, too, was a popular institution — it was no exclusive possession of the few. All could become sages if they had the brain and soul-power. In its disputations, a purer atmosphere was breathed that made the Dark Ages impossible — it was tonic and preservative as well. Hence Jews could be scientists, physicians, poets, philosophers in goodly number, because their intellects had been Talmud-fed and they had no craving for the riotousness and immorality that prevailed among their contemporaries. The rabbi, too, was no idle ecclesiastic, but a resolute worker, now a saddler, now a weaver, now a carpenter, now a dyer, for the study of the law was held to be most meritorious when combined with some manual employment. Hence the helpful and ennobling domestic life, in ages when family vices, not virtues, were exemplified alike in court, palace and hovel. On the other hand, it must frankly be stated, that the exclusive study of the Talmud was often narrowing and repressive, with an unhappy influence on Jewish growth. It produced in such instances an intellectual Ghetto, utterly foreign to the spirit of representative sages, dwarfing the Jewish soul and its ambitions. When scholars become scholiasts, and broad students fatuous schoolmen, like the mediæval champions who argued as to how many angels could stand on the point of a needle, mental decay is inevitable. Hence the study of the Talmud degenerated at times into useless dialectic, which met the severe rebuke of clear-thinking rabbis, but held sway over many minds and particularly in lands where the Jew knew no vernacular but a mongrel jargon of his own, and had no rights or privileges as a citizen, being merely a serf or underling, to be told to "move on!" with every fresh outbreak of the mob — a veritable Ahasuerus of the popular imagination, ever wandering. No wonder that under such conditions he found solace in his Talmud and built his mountains of syllogism on very unsubstantial basis. It was Moses Mendelssohn who broke away from the intellectual Ghetto of his coreligionists and paved the way for their emancipation from the exclusive Talmudic atmosphere. They were to be citizens of the world hereafter and civil and religious liberty became their possession. The Talmud was to be cherished, but not made an idol of, to be venerated, but not worshiped. It was a work to be studied, but not regarded as an infallible authority. It was to be analyzed, dissected, subjected to criticism as the work of men. Bible, Mishna, Gemara, with ritual codes and commentaries, were but steps in the progressive development of Judaism whose sages are restricted to no age and clime, but are continuous as God's revelation. One can thus understand how the Talmud supplies ammunition to all schools in modern Jewry, whether right, left or centre; progressive or conservative; advances of orthodoxy or reform.

Faults of the Talmud.— While claiming high rank for the Talmud among the works that have influenced millions of people, it is not necessary to glorify it out of all proportion and assert its absolute perfection. There are faults in this encyclopedia, which records the opinions of a thousand disputants of different climes, conditions and eras, their after-dinner talk, as it were, and their more serious utterances. These faults are given as four-fold by the Jewish historian Graetz (History, II, p. 633, Am. ed.). The Talmud contains much that is immaterial and frivolous, it reflects the superstitions and views of its Persian birthplace, with their magic, incantations, miraculous cures, demoniacal medicine and mystic dreams — all opposed to the spirit of Judaism. Then, too, it contains occasional instances of harsh judgments and decrees against other nations and religions; and, finally, it seems to favor an incorrect exposition of Scripture, accepting, as it does, often tasteless interpretations. What Graetz asserts is not to be denied; yet these defects are not organic. The Talmud is not one book but a collection of books; is not by one author, but by a thousand authors; is the work not of one age, but seven centuries. What wonder, then, that there are faults in such a composite creation, which Graetz compares to a literary Herculaneum and Pompeii, comprising the sublime and the common, the great and the small, the grave and the ridiculous, the altar and the ashes, things Jewish and heathenish side by side. The expressions of uncharitable-

ness, often nothing but the utterances of ill-humor and righteous indignation of some single teacher, preserved by over-faithful pupils, are more than counterbalanced by the breadth and humanity that often illuminate the Talmud; and by its recognition of genuine religion as something higher than race or creed. One must also consider that the rabbis never enjoyed security for any prolonged period. The Roman, the Greek, the Persian and the rest were ever «baiting» them, and persecutions were constant. If their utterances were human and expressed their agony and passion in times of bitter distress, the spirit of broad humanity was never wholly absent from their complaints. It was a sage of the Mishna who said: «A heathen who occupies himself with the law of God stands in the same rank as the high priest.»

Commentaries on the Talmud.—The first to write a commentary on the Mishna was Maimonides (12th century), originally in Arabic. Manuscripts of this work are in the Bodleian and have been translated into Hebrew by some scholars of the 13th century. R. Tanchum of Jerusalem followed Maimonides by writing a lexicon of the Mishna in Arabic. This has never been published, but manuscript copies exist in the Bodleian. A large number of commentaries have appeared upon the Mishna in whole or in part, usually clear and simple in aim, concise and exact in expression. As commentator on almost the whole of the Talmud, Rashi of Troyes (1040–1105) is most eminent, and his very clear and systematic exposition appears in every edition of the Babylonian Talmud. The supplements and additions to Rashi's commentary were written by his relatives and pupils. A collection of notes and discussions called Tosafoth, additions, appears in all Talmud editions, whose authors called «Tosafists,» lived in France and Germany during the 12th and 13th centuries. Three of the more important later commentators whose expositions are printed in many Talmud editions are Solomon Luria (16th century), Samuel Edels (d. 1631) and Meir Lublin (d. 1616).

Helps to Talmudic Study.— These consist of lexicons from the oldest, the Aruch of R. Nathan ben Jechiel of Rome, of the 11th century, recently revised and enlarged by Kohut as the 'Aruch Completum,' to Fischer's revised and enlarged edition of Buxtorf, Levy's 'Dictionary of the Talmuds and Midrashim' (in German) and Jastrow's 'Dictionary of the Talmud,' etc. (London and New York, 1886–1903), an admirable and scholarly work. Then must be mentioned grammars, like Luzzatto's and Levias', which aid in the study of the idiom of the Babylonian Talmud, chrestomathies for beginners and more elaborate introductory works and treatises from Samuel Hanagid's fragment (11th century) and Maimonides' introduction, translated into German by Pinner, to modern authors like Brüll, Frankel and pre-eminently J. H. Weiss. There are other works of reference, but the best help is the living teacher, who is obviously the most trustworthy pilot through the «sea of the Talmud.»

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ABRAM S. ISAACS,
Professor of Semitic Languages, New York University.

8. THE MASORAH. Masorah or **Massorah** is the name given to the body of critical notes on the external form of the Hebrew-Aramaic text of the Old Testament. The name is taken from Ezek. xx, 37, and means originally «fetter,» the fixation of the text having been correctly looked upon as a fetter on its exposition. In later times the word assumed the meaning of «tradition.» This body of notes represents the literary labors of a long line of scholars, very few of whom are known by name, who flourished during a period of about 17 centuries — from about 300 B.C. to the invention of printing. They were mostly copyists or professional scribes or teachers of the Bible and their notes were the outcome of a close application to their professional work.

Object and Method.— The chief object of the masoretic notes was to serve as a guide to the copyists and enable them to produce a faultless Bible-text. They were written on the margins of private Bible-codices or between the lines and collected in a body before or after such codices or finally compiled in special independent works. In Bible-scrolls designed for public use at the synagogue no notes were permitted in accordance with the injunction of Deut. iv, 2. The amount of masoretic notes differs greatly depending on the amount of space at the copyist's disposal; on the size of the script used, the price of the writing material and of the scribe's labor and on the fanciful shape he gave to his glosses, which were sometimes written so as to form ornamental decorations to the book.

The independent works are arranged topically in numbered groups or rubrics; the interlinear and marginal notes, however, follow the order of the text, forming a kind of running annotation. Presumably in the course of time a certain technique was worked out with regard to the distribution of masoretic material. Certain matter was designed preferably for the intercolumnal and outside perpendicular margins; other matter for the upper and lower margins, etc. The former is known as the Inner or Small Masorah, the latter as the Outer or Large Masorah; the glosses surrounding the initial word of a book, usually written on a separate line, are called the Initial Masorah. The term Large Masorah is also applied to the lexically arranged notes at the end of the printed Bible, usually called Masoretic Concordance or Final Masorah.

The Small Masorah consists of brief notes with reference to marginal readings, to statistics, showing how many times a particular form occurs in Scripture, to full and defective spelling and to abnormally written letters. The Large Masorah is more copious in its notes. The Final Masorah comprises all the longer rubrics for which space could not be found in the margin of the text.

The old Hebrew text was in all probability

written in continuous script, without any break, and some of its words were abbreviated. The masorites divided the text into words, books, sections, paragraphs, verses and clauses (probably in the chronological order here enumerated), the various divisions being indicated by spaces. They fixed the orthography, pronunciation and cantillation, and introduced the square characters or modern Hebrew script. To indicate various teachings, legal or popular, religious or mystical, they formed some letters in some words in an abnormal way; some are larger, other smaller than the rest, some have their strokes or bars curved, others have them drawn out in a scroll, still others have scroll-like and semi-circular attachments, or a broken stroke. Most of these graphic peculiarities are of a late date and their vogue was short-lived; the printed Masorah either ignored them or did not know them, and some of the terms referring to such peculiarities were already misunderstood by specialists in the 14th century. More of a purely caligraphical origin are the titles or apices on certain letters of alphabet.

There are four words having one of their letters suspended above the line. One of them, the *n* in the name of Manasse (Judges xviii, 30), is due to a correction of the original Moses, out of reverence for the latter. The origin of the other three (Ps. lxxx, 14; Job xxxviii, 13, 15) is doubtful. In the opinion of some they are mistakes for large letters; according to others they are later insertions of originally omitted weak consonants.

Nine passages in the Bible are preceded and followed by signs usually called "inverted Nuns," because they look like the letter N in the Hebrew alphabet. These signs are probably of text-critical importance. Their real significance is, however, unknown.

In 15 passages some words are stigmatized as a sign of deletion. At a later period a marginal reading takes the place of a stigma. The marginal readings are of a threefold character: (1) words to be read for those written in the text; (2) words to be read for those not written or omitted in the text; (3) words written, but not to be read. The origin of these variants is manifold. Some represent various readings in ancient manuscripts; others arose from the necessity of replacing erroneous expressions by correct ones, difficult, irregular, provincial and archaic, by simpler, current and appropriate; or cacophonous by euphonious expressions. Some of them may have been designed to call attention to some mystic meaning or homiletical lesson supposed to be embodied in the text. Finally, and this at a later date, they represent variant readings found in Talmudic literature.

In traditional literature the observation is found that in some passages the number of which varies in the different sources as 7, 11, 13, 15 or 18, the Bible contains expressions other than the context would lead one to expect. To the question why this is so, the earliest sources answer: "the Bible uses euphemism." The later sources, however, explain this by the assertion that the men of the Great Synagogue, i.e., the scholars of pre-Maccabean times, had made corrections in the text. Modern investigators are inclined to attribute these peculiarities to the authors or redactors of the Biblical books themselves, the latter shrinking from putting in writing a thought which some of the readers might expect them to express. The assertion about the corrections made by the scribes is probably due to the tradition which ascribes the redaction of several books of Scripture to the Great Synagogue.

Textual Correction.— There are, however, phenomena in the Biblical text which lead one to assume that at some time textual corrections had been made. These corrections may be classified under the following heads: (1) Removal of unseemly expressions used in reference to God; e.g., the substitution of the verb "to bless" for "to curse" in certain passages. (2) Safeguarding of the Tetragrammaton; e.g., the substitution of Elohim for Yhwh in certain passages. Under this head some have counted such phenomena as the variants of the divine names in proper names, e.g., Joahaz for Jehoahaz. (3) Removal of application of the names of false gods to Yhwh; e.g., the change of the name Ishbaal to Ishbosheth; or, according to another opinion, from Ishbosheth to Ishbaal. (4) Safeguarding the unity of divine worship at Jerusalum. Here belongs the change of the city of "Righteousness" (Isaiah xix, 18) to that of "Destruction."

A large portion of the Masorah is given to statistical data: how many letters, words, verses, sections and chapters there are in each book and in all of them together; which is the middle letter, word or verse in each book; how many words begin with a certain letter or combination of letters; how many times a particular form of word occurs in the Bible, etc. This feature probably has its origin in the early copyists counting the letters of the text to have a basis for calculating the charge to be made for their labor.

Beside the labors of fixing and guarding the purity of the text, the masorites put the world of scholars under the greatest obligation by inventing and introducing in the 6th century systems of vocalization and accentuation, embodying the pronunciation as handed down in the schools of their time, and their understanding of the textual connection. A great deal of our grammatical knowledge of the Hebrew language is based on their vocalization.

History and Development.— The history of the Masorah may be divided into three periods: (1) creative period, from its beginning to the introduction of vowel-signs; (2) reproductive period, from the introduction of vowel-signs to the printing of the Masorah in 1425; (3) critical period, from 1425 to the present day. The cultivation of masoretic studies both took its rise and had its culmination in Palestine. Still, it had already in the 2d Christian century its workers in Babylonia. In the course of time differences of spelling and pronunciation developed not only between the schools of Palestine and Babylonia, but in the various seats of learning in each country. In Babylonia the school of Sura differed from that of Nehardea; similar differences existed in the schools of Palestine, where the chief seat of learning in later times was Tiberias. These differences must have become accentuated with the introduction of graphic signs for pronunciation and cantillation; and every locality, following the tradition of its school, had a standard codex embodying its readings. The Biblical text accepted by us, its vocalization and accentuation, the Masorah in its contents and language, as well as the

regulations with reference to writing of Biblical books, all are of Palestinian origin. Fragments of text and Masorah originating in Babylonia have but recently been discovered.

In this period living tradition ceased, and the masorites in preparing their codices usually followed the one school or the other, examining, however, standard codices of other schools and noting their differences. In the first half of the 10th century Aaron ben Moses Ben-Asher of Tiberias and Ben-Naphtali, heads of two rival masoretical schools, each wrote a standard copy of the Bible, embodying the traditions of their respective schools. Both of them were descendants of distinguished families of masorites. Ben-Asher's codex became recognized as the standard text of the Bible. Notwithstanding this, for reasons unknown, neither the printed text, nor any manuscript which has come down to us, is based entirely on Ben-Asher; they are all eclectic. The two rival authorities, Ben-Asher and Ben-Naphtali, practically brought the Masorah to a close. Very few additions were made by the later masorites, styled in the 13th and 14th centuries *Nakdanim*, who revised the works of the copyists, added the vowels and accents, and frequently the Masorah. Considerable influence on the development and spread of Masoretic literature was exercised during the three first centuries of the second millennium by the Franco-German school of *Tosaphists*, or Talmudic annotators.

Jacob ben Hayyim ibn Adonijah, having collated a vast number of manuscripts, systematized his material and arranged the Masorah in the second Bomberg edition of the Bible (Venice 1424–25). Besides introducing the Masorah into the margin, he compiled at the close of his Bible a concordance of Masoretic glosses for which he could find no room in a marginal form, and added an elaborate introduction — the first treatise on the Masorah ever written. In spite of its numerous errors this excellent work has generally been acknowledged as the "textus receptus." Next to Ibn Adonijah the critical study has been most advanced by Elijah Levita, who published his famous 'Massoret ha-massoret' in 1538. The 'Tiberias' of the elder Buxterf (1620) made Levita's researches accessible to Christian students. Levita compiled likewise a vast masoretic concordance which still lies in the National Library of Paris unpublished. Other prominent workers in this field in the times of the Renaissance were Rabbi Meir ben Todros ha-Levi, Menahem di Lonzano, and Jedidiah Solomon of Norzi. In modern times, to mention only the most prominent names, were W. Heidenheim, S. Pinsker, S. Frensdorff, S. Baer and C. D. Ginsburg.

In imitation of the Masorah to the Hebrew text a similar work exists to the text of the Aramaic version, known as Targum Onkelos. Its date is probably about 900.

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C. LEVIAS,
Formerly Professor of Hebrew, Union College.

9. THE CABALA. Cabala designates the mystic lore of the Jews and the practices based thereon. The name is etymologically related to a Hebrew verb meaning to receive and which is technically used to denote the reception and transmission of divine revelation. Its application to theosophic speculation and theurgic art indicates the belief that the doctrines and practices comprising the Cabala were imparted through divine revelation, saints such as, among others, the Patriarchs being regarded as the chosen recipients of the divine unfolding.

The twofold character of the Cabala as speculative and experimental is expressed in the distinction of the one as Cabala Iynnit — reflective Cabala, and of the other as Cabala Maasit — active or theurgic Cabala. Historically considered, the Cabala antedates by many centuries the works devoted to the exposition of its theories and the inculcation of its practices. Indications are plentiful in both the Apocrypha and the Pseudo-epigrapha, notably in the Enoch books and the Testaments of various Biblical heroes, pointing to the acceptance and currency of Cabalistic concepts at the time these extra-canonical books were composed. Babylonian mythological elements, as well as Zoroastrian theological conceits, were among the extraneous influences that gave fertile impulse to cabalistic speculation. Greek philosophy, especially as developed in the Stoic and Neo-Platonic systems of Alexandria, must also be credited with having stimulated its development. Jewish, of the late pre-Christian, and Christian Gnosticism of the early Christian centuries, may be looked upon as its predecessor. The absolutely transcendental character of Jewish monotheism could not but lay near to reflective minds the fundamental problems, basic to all Jewish mysticism, how the sublime extra and supra-mundane Deity could be the Creator of the existing world and could be regarded as being in contact with it as its ruler and guide, and more especially how man could rise into communion with God. The Biblical account of the Creation known as the Ma'aseh Bereshit (literally the work of the beginning) and the description of the divine chariot in the first chapter of Ezekiel termed the Ma'aseh Merkabah (literally the work of the chariot) were held in early Talmudic records to hide esoteric knowledge within the reach of the chosen few who of mature age and proper degree of wisdom might venture to unravel their occult suggestions. The allegorical method of interpreting scriptural contexts, in vogue among the preachers of Haggadists of the synagogue, stood the elect searchers for the contents of divine revelation transmitted in these two chapters in good stead. By amplifying it, they arrived at the deeper meaning of Genesis i and Ezekiel i, designated by them as the "secrets" and the "hidden things" of the Torah or the Law. But care was had not to divulge publicly the truth thus found. It was zealously reserved exclusively for the "wise"

and "worthy." Concepts that recur as basic to later theosophic speculations are attributed to some of these Talmudic wise men; for instance, the view that fire, water and air existed before creation, these three producing light, darkness and wisdom respectively, the world being a combination of these six elements, or that creation in reality is a process of condensation, God contracting Himself or His garments of light to make room for the world resulting from this operation. The Pantheistic designation of the Godhead as the "Place" the Mākôm (Greek Topos) of the universe credited to some Talmudic doctors is another indication of the prevalence of mystic speculation in the Talmudic schools, as is also the personification of God's "Justice" and "Mercy," of frequent recurrence in Talmudical parlance. Another evidence to the same effect is the tendency characteristic of a number of Talmudical observations to represent God's activity by 10 hypostases of Sephirot, viz., wisdom, insight, cognition, power, strength, immutability, justice, righteousness, love and mercy. Sometimes, as in Philo, wisdom is named as the totality of these 10 potentialities. But most significant in this connection is the occurrence in Talmudic theology of Metatron, an angelic mediator between the transcendental Deity and Creation. He is the Demiurgos, the instrument through which the supra-mundane God acts. Again the soul is often described as pre-existent. The pious are credited with the power while living to ascend to God. During such ascension they learn the secrets of the Beyond. Furthermore the "mystery of sex" and of "marriage," which is one of the main preoccupations of the later (literary) Cabala, as well as the doctrine of emanation, is met with in the Pseudo-epigrapha as in Talmudic passages.

Cabalistic speculation and practice presented in the Talmudic documents in detached glosses proceeded to become more systematic in what is known as the Geonic period (from about 500–900 or 1000 A.D). Jewish mysticism developed a literature of its own which however has been preserved only in fragmentary form. From what is known of the contents of this literature, it is certain that theosophy and cosmogony were central in its speculative interests, while theurgic practice, the art of producing by mystic words and names certain effects, was another department of its preoccupation. In theosophy, the nature and personality of Metatron; the dimensions of God, or those of this mediator, presented the principal theme for discussion. The work entitled 'Shiur Kômāh,' the proportions of the (divine) stature, is devoted to the latter. Descriptions of the celestial halls or Hekalôt and of the visits and experiences of saints and ascetics that made the "ascension" furnish the matter of other treatises. To cosmogonic mysticism belong works treating of the "six days of Creation," the story of the conflict between God and Primal Water, or between the "Masculine" and "Feminine" Waters, descriptions of Paradise and the lower world. As for theurgic art, these fragmentary remnants of mystic literature present expositions of the power vested in such as know the names of angels, or of the prophylactic virtue of the knowledge and the use of mystic names.

The most important work by far is the famous Sephēr Yezirāh, the book of the Creation. Its date is in doubt. Certain it is that before the beginning of the second Christian millennium it had come to be regarded as one of the most important books calling for and receiving commentation at the hands of the most learned. According to this book the fundamentals of all being are Sephirôt or potentialities. These mediate between God and Creation. They comprehend first three emanations, one direct from God and the other mediate, viz.: (1) Spirit or air (Hebrew Ruach), from which came (2) water, which in turn was condensed into (3) fire. To these are added six dimensions, three to the right and three to the left. The 10th element is the Spirit of God. All 10 are eternal, the first three being, however, pre-existent. They are the substance of all that is, the form being supplied by the 22 letters of the Hebrew alphabet. Between substance and form is a contrast. Creation consists in resolving this contrast. God is the solvent. Through Him as the solvent, existence, i.e., combination of form and substance, takes on reality.

The Neo-Platonic and Pythagorean character of the books' theorizing is evident. To some sectaries the affirmations of the treatise seemed too strongly anthropomorphic. They therefore posited between God and universe a mediator, the "Prince of the World," to whom they imputed all acts of creation and to him they referred the corporeal descriptions of God found in the Bible.

Among the systems that to a certain degree were impregnated with Cabalistic Pantheism, and in turn exercised a determining influence on the further evolution of Jewish mysticism, that of Ibn 'Gabirol holds a prominent place, as his philosophy seemed to confirm the theory of God's immanence, underlying the central theory of the Cabala, that of successive emanation.

Subsequently the Cabala differentiated into that of the German Jews, and that of the Jews of Spain and Provence. Among these Eleazar of Worms and Abraham Abulafia deserve mention as exponents of the doctrine. They held that God was too exalted to be cognized by human intellect. But between the Unknowable God and man searching for God was God's Kābôd or Glory, created by God out of His own primal fire. This "Glory" has shape and dimension. It is seated on a Throne in the east but screened by a curtain open alone in the west. To this Kābôd the descriptive adjectives of the Bible refer. Four worlds are in existence: (1) That of this "glory"; (2) that of the angels; (3) that of the animal soul; (4) that of the intellectual soul. This German mysticism on its practical side was a reaction against the dominancy of Talmudic scholarship as the sole measure of piety. It substituted for study prayer, which it viewed as a mystic progress toward God. It reveled in states of ecstasy, as a protest against the barren rationalism and unstirred sobriety of the schools' dialects. Fasting, asceticism and meditation were resorted to to bring on the coveted ecstatic states, or recourse was had to the mystic names of angels and the deity.

The Cabala of the Provence traced its origin

to a revelation by the prophet Elijah to Jacob ha-Nazir, who in turn initiated Abraham, son of David of Posquières, whose son (Isaac the blind) again transmitted the doctrines to his followers. This invoking of the prophet Elijah shows that the mystics of Spain and the Provence regarded their doctrines as of divine authority. That it had come to them from afar — from Babylon by way of Greece and Greek philosophy — is now the theory of the competent scholars. The more important expositions are comprised in the following works: (1) 'Masseket Azilut' or treatise on emanation; (2) 'Bahir,' in which a new classification of the Sephirot is given and the doctrine of continuous emanation is advanced; (3) Azriel's book, written "to present Cabala to philosophers with a view of making it acceptable to them"; (4) a number of pseudo-epigraphic books of the second half of the 13th century, based on the foregoing; (5) the *one* publication commonly regarded as the Bible of the Cabala, the 'Zohar' (Splendor, based on Dan. xii, 3), written in the form of a commentary on the Pentateuch and introduced as R. Simon ben Yochai's production. Analysis demonstrates that the Zohar is "an aggregate of heterogeneous parts." The compilation probably is not older than the beginning of the 14th century. It received its present form largely at the hands of Moses de Leon. Later Cabalists, either exponents or opponents of the Zohar, were Joseph ben Abraham, Ibn Wakar, Moses Botarel, Isaac Arama, Isaac Abravanel, Abraham Saba, Isaac Luria, Moses Zacuto and others. The Cabala found readiest acceptance among the Jews in Turkey and in Poland. The pseudo-messianism of Shabbatai Zewi (1665) rested to a certain extent on Cabalistic expectations, asceticisms, keeping vigils at frequent intervals, performing baptismal ablutions, doing penance, having marked the practices of the adherents of the later Cabalistic teachers, who regarded these acts as preparatory to leading pure lives and expressive of love for man, virtues that were hoped to usher in the coming of the promised Redeemer.

The Cabala of the Jews was not without influence on the thoughts of Christian scholars, among them Raymon Lulli (1225–1315), Pico di Mirandola (1463–94), Reuchlin, Heinrich, Cornelius Agrippa (1487–1535), Zorzi (1460–1540) and others. It is not too much to say that Cabalistic speculation recurs in the theology of some of the noted precursors of the Reformation, and had a share in the development of the Evangelical Church's dogmatics.

In brief, the main contentions of the Cabala are these: (1) God is unknowable in His own essence. He is the En-sôf, limitless, infinite. He is the Hidden of All Hidden. He is the "negative" as far as He is cognizable by man. He is the first primal of all primals, the ulterior principle. Only as far as He has deigned to change His absoluteness into relativity, by permitting creation to take on existence, is He cognizable in measure as creation reveals Him. Between Him and creation, through irradiation or condensation of His primal light, He placed a mediator, Metatron, or the Prince of the World, or the Merkaba or Chariot; to this, sometimes denoted as the first Sephirāh, refer all anthropomorphisms of scriptural description of the Godhead. The Infinite has no attributes. But the Mediator has. He is the "Superior Man," the "Celestial Man," "Wisdom." This primal man or being is the creator and governor of the world. He is endowed with corporeality.

In God, will and thought and action are identical and synchronous — instantaneous. In Him transition from resolution to execution presupposes no change in essence. This divine will is the Rāzôn Kadmoñ, the uncreated eternal will. It is the first principle or sephirāh. God, however, concentrates himself. This "mystery of the divine concentration" (Sôd Zimzum) results in rendering visible that part of himself which is the world. This act is similar to making a rent in a vessel, through which the contents are exposed to view. Through God's self-concentration, however, room is made for the visible world. For it limited vacancy is produced in which the divine ray of light is implanted as the germ of progressive creation. The Infinite has thus himself willed His partial finiteness. The Cause of all Causes has produced the 10 Sephiroth. He is the Crown, the Light that is Infinite. In Him there is neither form nor substance. But He made a little vessel, the letter Yod. It is "wisdom"; then created He the sea, which is reason. This sea He divided into seven streams, for which He made seven vessels: (1) Greatness; (2) power; (3) beauty; (4) victory; (5) highness; (6) foundation; (7) Shekinah or government. Some of these Sephiroth are constructive, others — the first three — are elemental. Some mystics regard these 10 as identical — representing only various aspects of the Divine Infinite — but others hold them to be tools of the Creator, superior beings totally different from Him. In the Sephiroth two natures inhere: (1) That through which all change occurs, i.e., the "vessel"; (2) that which is unchangeable, i.e., the "Light" or the Power.

(2) Man. Man is the highest creature. His body is built according to the mysteries of wisdom. But he is more than body. He is threefold, soul,— animal soul (Nēphesh), moral soul (Ruach), intelligent soul (Neshāmāh). This third soul emanates from "Wisdom," the second from "Beauty," the third from "Dominion, or Kingdom." The soul is pre-existent. After dissolution of the temporary union of body and triune soul, the intelligent soul ascends to God, the moral soul enters Eden, the animal abides peacefully on earth. This is the destiny of the righteous. If stained by sin, the soul has to undergo punitory trials. Hence the Cabala accepts the doctrine of the transmigration of the soul. Only those souls that have fully developed their power may return to God or enter Eden; others will have to serve their period of probation, sometimes two souls being "inter-impregnated," merged into one, so as to help each other in the performance of the allotted task.

Man should love and fear God. Love is the secret of unity with God. In the degree man loves God he rises to higher intimacy with God. Life in the beyond is life which vouchsafes deeper contemplation of the divine reality. Evil is the contrary of the God-like, the "left side." Evil is finite. Evil man mistakes semblance for

substance. He separates himself from God. The Cabala to a certain extent teaches the sinlessness of original man whose fall brought sin and evil into creation.

Man, however, is not eternally lost. He may rise to the centre of divine light through penitence.

The Cabala has induced a more spiritual conception of religion and emphazised its ethical implications more strongly than legal ritualism could vitalize. On the other hand it encouraged the belief in magic, in demons and opened the door to many grotesque and even noxious superstitions. Its adepts came to put faith in signs and constellations, and otherwise naturalized in Judaism many conceits and customs of non-Jewish origin and significance.

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EMIL G. HIRSCH,
Professor of Rabbinical Literature and Philosophy, University of Chicago.

10. THE KARAITES. A Jewish sect which took its rise in southern Mesopotamia in the second half of the 8th century and which has persisted to the present day. Several causes have contributed to its origin and continuance, some purely personal, others depending upon a difference of view in regard to some of the essential features of Rabbinical Judaism.

Origin.— The development of what is known as Rabbinical Judaism, which commenced after the destruction of the second Hebrew commonwealth, has not been as one-sided as is popularly imagined. In addition to the written law, the basis of all religious and all civil development, an unwritten law had naturally grown up which by its interpretation of the written law fitted that law to the changing times and to different needs. In this manner a large mass of traditions interpreting and enlarging the law has come into being. This mass is known as the oral law, and it gradually acquired a sanction and a sanctity second only to that of the canon. This oral law was not necessarily rigid; for as long as the schools maintained their vigor a natural and healthy development took place. Custom, however, came to the aid of the oral law and in a natural process was itself then regarded as law. The development, however, was not homogeneous. There were at all times within the Jewish polity freer spirits who rebelled against the trammels which a fixed interpretation of the Biblical laws naturally induced. They imagined that by basing themselves wholly upon the word of Scripture they would free themselves, forgetting that they were running the risk of worshiping the letter instead of the spirit which manifested itself in the development of the oral law. From time to time sects arose, having as their principal object the negation of the official tradition. Of such a kind were the Samaritans, though their opposition to the Jews was more political than religious, and in a large measure the Sadducees. To such sects the Karaites belong; but they represent the only sect that has had a long and important existence and against which Rabbinical Judaism had continually to be on the alert.

Anan and the Early Karaites.— The sect was thus to a certain extent the outcome of the opposition to the official oral law. A personal element entered into this opposition. The founder of the sect was a certain Anan ben David, said by some to have been a descendant of Bostani, a celebrated head of the captivity. His followers and certain Mohammedan writers assert that he himself was an exilarch; this is undoubtedly a falsehood. His uncle, however, did occupy that position; and when he died in 760 Anan had a certain right to expect the appointment. A younger brother, Josiah by name, was preferred. Whatever may have been the reason for this preferment, Anan resented it and out of pique had himself proclaimed exilarch in 767. This appeared to the Abbasid Caliph al-Mansur as treason, seeing that the regular exilarch had been confirmed by himself. Anan was imprisoned, and only released by heavy bribes given to the officials. He then started out to build up a following of his own. His immediate followers, who must be clearly distinguished from later Karaites, were called Ananites. This was no difficult matter at that period and in those regions. The Mohammedan world itself was in a ferment, due largely to the pretensions raised by the various followers of Ali. Numerous Mohammedan sects raised their heads, and their example cannot have been lost upon the Jews living in their neighborhood. The influence of Mohammedan thought upon the Jews was great at all times; and it cannot be doubted that this influence was strongly exerted in the formation of Karaism. The central doctrine of Anan's philosophical or theological rebellion was his denial that the oral law was divine. According to him all portions of the Bible are of equal value. One must delve deep into it in order to take out its secret and its hidden meaning. No fixed rules are to govern this study; each individual must find out for himself what is the law. To a greater or less degree similar controversies were raging in the Mohammedan world. The Shiites in a measure denounced tradition (Sunnah) as much as Anan did; and even among the orthodox the question as to the right of individual speculation occasioned bitter controversies. The founder of one of the four chief Mohammedan legal systems, Abu Hanifah, was the one who upheld this doctrine of the right of individual speculation; and it cannot be merely a chance circumstance that he lived in the same place and at the same time as did Anan. In fact it is said that he was imprisoned together with Anan. Undoubtedly the two systems have their basal thought in common.

Spurred on by the example in the Mohammedan world, the Karaites held that they were not a new sect, that they represented true Judaism, and that it is necessary to return to the purity in belief and practice of Moses and the Prophets, just as Mohammed insisted that he simply reintroduced the old religion of Abraham. The Rabbinites he held were following the secession introduced by Jeroboam. The Sadducees had, it was further held, found out a part of the truth; but Anan was the first to reveal it in its entirety. The connection with

the Sadducees seems undoubted, in spite of the fact that the later Karaites rejected the connection, because the Sadducees did not believe in the resurrection. This is seen in their adoption of certain Biblical interpretations which are only to be found among the Sadducees or in the early *Halakah* which was superseded by that which became canonical, *e.g.*, the meaning of the expression "on the morrow after the Sabbath" (Lev. xxii, 11), as the time for commencing to wave a sheaf of the first fruits; the real meaning of the lex talionis (Deut. xix, 21) and the use of the flesh of an animal that was diseased before it was slaughtered. The older Halakah not only forbade one to kindle a light on the Sabbath day but even to allow it to burn — an interpretation followed by the Sadducees, the Samaritans and the Falashas. The early Karaites seem even to have had Sadduceean writings in their possession which are now lost, the authenticity of which not even their great opponent Saadia contested. Anan was an eclectic, and evidently tried to gather into his fold all manner of doctrine that was in any way opposed to the Rabbinical interpretation. Thus he introduced the prohibition of eating meat or drinking wine during the exile of the Jews from the Holy Land; a theory upheld by two minor sects, the followers of Abu Isa of Ispahan (685 to 705), and of Yugdan, a pupil of Abu Isa. But despite his opposition to the Rabbinites, Anan followed their teachings in many things. He himself was a good Talmudist and he took over nearly all the rules of Biblical interpretation upon which the Talmudists based their system. He was by nature something of an ascetic, and consequently was apt to follow in all cases the more stringent rather than the more lenient view in questions of practice. In fact, he may be said to have developed a tradition and a Talmud of his own. His immediate followers, who called themselves "Mourners for Zion," went to live in Jerusalem, where they gradually died out and were of very little influence upon the development even of their own sect.

Development.— In the 10th and 11th centuries Karaism took on quite a large following. It spread notably in Babylonia, Persia, Syria, Palestine and Egypt. It found a second home in Constantinople, and from here spread into Europe and certain parts of the Mediterranean littoral. We hear of Karaites in Salonica, and, what is of more importance, in Spain itself. One reason for this extension was undoubtedly the *point d'appui* that Karaism gave to all those who, for one reason or another, were dissatisfied with Rabbinism. A more important reason was the supineness of the Jewish authorities in Babylon who were the nominal or spiritual heads of all the Jewish communities, but who were fast losing the direction of their affairs and prominence in scholarship. In a most surprising manner these Babylonian authorities misjudged the possible effects of the new schism. Even though proselytes were made out of their own ranks, they must have persuaded themselves that the new movement could be killed by silence. The Gaon Natronai bar Hilai (ca. 857–867) is the first one to busy himself with the new doctrine. In Spain it was otherwise. A Castilian Jew, Oid al-Taras, in 1054, journed to Jerusalem, where he became a convert to the new school. He returned and commenced to spread Karaism among the Spanish Jews. There grew up communities in Carrion, Burgos, Toledo and Talavera, etc. The Rabbinites, however, were aroused, and even secured the aid of the secular arm. Both the religious and the civil power weighed heavily upon the Karaites. At the end of the 11th century, then again under Alfonso VIII (1126–56), and a third time under Alfonso IX (1158–1214), they suffered persecution and the schism was nipped in the bud.

But without making use of secular weapons, a young scholar in Fostat (Old Cairo), Egypt, set out in a scientific way to demolish the foundations upon which Karaism was built up. Had it not been for Saadia ben Joseph (892–942), the heresy might have made great inroads into the Jewish body politic. Not only as a young man in Egypt, but later as Gaon at Sura, he devoted some of his best energies to refuting the works of Anan and to writing anti-Karaitic tracts. The refutation may be said to have been complete; for he set at rest any fear that the heresy might become dangerous to the real unity of Judaism.

The polemics of Saadia naturally called forth replies on the part of the Karaites and produced the flower of Karaite literature. Karaite scholars were forced to defend their theological position, their peculiar interpretation of the Bible, and their knowledge of the Hebrew language. The chief Karaite writers of this period were the polemicist and Bible commentator, Solomon ben Jeruham (940); David ben Abraham al Fazi (950), the author of a Hebrew dictionary; Jacob al-Kirkisani (938), author of a commentary on the Pentateuch; David ben Boaz (ca. 910), author of a commentary on the Pentateuch and a work on the principles of religion; Japhet ben Ali (ca. 1000), their most prolific commentator, and Sahl ben Masliah (ca. 980), the author of a work on the Biblical laws.

Further History.— In the next period Constantinople becomes the centre. Its most important Karaite scholar was undoubtedly Judah Hadassi (1149), the author of the 'Eshkol ha-Kofer,' an encyclopedic work in rhymed prose, giving a whole system of Karaite theology and treating of the most varied subjects. After him lived Aaron ben Joseph, the elder (1300), a native of the Crimea, who is known not only as a distinguished Bible commentator, but as the compiler of the prayerbook still used by the Karaites, and to which he contributed some notable poems of his own. Aaron ben Elijah, the younger (1300–69), wrote the most philosophic treatise (Gan Eden) of any Karaite, as well as a commentary on the Pentateuch which is still very much in honor among his fellow-believers. He had studied thoroughly the writings of Maimonides, and he did his best to raise up Karaism out of the morass into which it had fallen through the heavy onslaughts of Saadia. To these must be added Elijah ben Moses Bashyazi, the systematizer of Karaite canon law (1420–90), his brother-in-law, Caleb Afendopulo (end of the 15th century), liturgical poet and writer of homiletic and theological works, and Moses ben Elijah Bashyazi (1544–72), a writer on theology. At the present day there are from 50 to 60 families in

Constantinople concentrated in the district Hasskeui. Upon several occasions the Karaites procured Firmans from the Porte recognizing themselves as a religious body apart from the other Jews and with their own chief rabbi. In 1900 these Firmans were confirmed by an Irade.

The Karaites had come into Egypt not long after the foundation of their sect. That they had made considerable progress there is seen from the fact that Saadia commenced his polemical writings in Fostat before 928, and that he had a number of direct opponents in the city. It was here, too, that lived the only important poet produced by the Karaites — Moses Dar'i who wrote in the style of the Judæo-Arabian poets of Spain. In Cairo, the Karaites, as elsewhere, kept themselves apart from the rest of the Jews. They had their own organization, at the head of which was a Nagid, who, however, was under the general jurisdiction of the Rabbinite Nagid. They had their own synagogues, first in Fostat and then in Cairo itself. They acquired a considerable amount of wealth there, being largely engaged in the goldsmith trade, while a number occupied positions of eminence chiefly as physicians. In the year 1313, when Abraham Maimonides was chief of the Egyptian Jews, a number of Karaites were converted to Rabbinism. At the present day about 400 families live in Cairo mostly in a separate street back of the old Jewish quarter.

In Russia.— Under the Tartar rulers of southern Russia Karaite Jews had emigrated during the 12th century into the Crimea and into Lithuania. From here they even penetrated into Galicia, and a Karaite community exists to-day there in the city of Halitsch. A portion of the city of Troki was given over to them; and here Isaac ben Abraham Troki composed, in 1593, his polemic, Hizzuk Emunah, directed against the Christian interpretation of Old Testament Messianic passages. It was especially in the Crimea that they flourished and evidenced some attempt at a revival of their literature; Simhah Isaac Lutski (1750) wrote a bibliography of Karaite writers, while Isaac ben Solomon, at the beginning of the 19th century, composed a work upon the doctrines of his sect. Their chief settlements here were in Chufut-Kale, Goslov (Eupatoria), Kaffa (Theodosia), Yenikele and Sulchat. In contradistinction to the other Jews in the Russian Empire they have always been treated well by the government. In 1796 Catherine II relieved them of one-half of the poll tax, and from 1827 to 1874 they were entirely freed from service in the army. As late as 1905 the Karaites in Moscow were permitted to keep their synagogue open, a privilege not granted to other Jews. In the Russian Empire there were in 1914 43 Karaite communities, all under the leadership of an energetic Haham Pampuloff. They are, however, yearly decreasing in number; as they have until recently refused to intermarry with other Jews. The attempt was recently made to have the government grant complete civil rights to all Rabbinite Jews who married Karaite girls upon condition that they formally renounce the Talmud. It was in the Crimea also that a Karaite archæologist, Abraham Firkovich, made his celebrated collection of Karaite antiquities and manuscripts, after having traveled over a great portion of the Hither East for that especial purpose. Unfortunately, despite the excellency of this collection which is now deposited in the Imperial Library at Saint Petersburg, he forged the dates on gravestones and upon manuscripts in order to prove the great antiquity of Karaite settlements in the Crimea and the disassociation of the ancestors of the present Karaites from the events that preceded the death of Jesus. At times, the Karaites in Russia have not scrupled at aiding the Russian government against the other Jews of the empire. Before the war of 1914 there were about 10,000 Karaites in Russia, about 2,000 in Cairo, 20 or 25 in Jerusalem, and another thousand scattered in various places.

Dogmas and Customs.— The religious dogmas of later Karaism have been formulated by Judah Hadassi as follows: 1. *Creatio ex nihilo;* 2. The existence of a Creator; 3. God is an absolute unity and incorporeal; 4. Moses and the other prophets were sent by God; 5. God has given to us the Torah, which is true and complete in every respect and not wanting the addition of the oral law; 6. The Torah must be studied by every Jew in the original language; 7. The Holy Temple was a place erected by God for his manifestation; 8. Resurrection of the dead; 9. Reward and punishment after death; 10. The coming of the Messiah, the Son of David. In other observances the Karaites differ in several particulars from the Rabbinites. Their synagogues are more thoroughly Oriental and have the appearance of Mohammedan mosques. Their prayers are largely made up of selections from the Bible, and of hymns composed by Aaron ben Elijah. Before entering the synagogue they remove their shoes. They do not wear phylacteries nor celebrate the festival of Hanukkah. They observe the Sabbath rest with great strictness; though in some places fire and light are now permitted on that day. Pentecost is celebrated on the day after the Sabbath; and the 10th of Ab is observed as the anniversary of the destruction of the Temple. The prohibitive degrees of marriage have been greatly extended.

It should also be said that during its early development Karaism reacted favorably upon Jewish learning in the East. The Rabbinite Jews were forced to meet their opponents upon their own ground. Karaite exegesis led the Rabbinite Jews to a deeper study of the Bible and of the Hebrew language. The philosophic presentment of their theology necessitated an equally philosophic presentment on the part of the Rabbinites, and the rivalry they engendered was useful in turning the other Jews to a closer and more scientific examination of their own position.

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RICHARD GOTTHEIL,
Professor of Semitic Languages, Columbia University.

11. ANTI-SEMITISM. A term which has received a special signification of its own as the situation of the Jews in Germany, France, Russia and elsewhere, in recent decades, has become more or less acute, means opposition to the Jews and their religion for various reasons. Such enmity, springing from many causes, has been a persistent factor in history from the era of the Pharaohs. Its manifestations assume different forms according to local or national conditions — from the crassest prejudice due to ignorance to more intense odium due to envy and often arousing long-continued persecutions or popular outbreaks. While it is unjust to call every criticism of the Jews and Judaism anti-Semitic — radical and religious peculiarities afford a fair field for the critic or investigator, who is not always to be termed an enemy because he discerns flaws or weaknesses — Anti-Semitism is wholly unfriendly, usually unjust, exaggerates minor defects into fundamental vices, employs faulty generalizations, and is careless how it arouses to strife and bloodshed, so keen and ruthless is pursuit of its quarry. History and literature abound in antipathies to nation and sect, from which, in Europe, Roman Catholic and Protestant, Methodist and Quaker alike have suffered, and which have crystallized themselves in words like barbarian and heathen, mummery and jesuitical. Anti-Semitism, however, in its intense and most characteristic form, is more than an antipathy — it is a relentless hunt to the death, which denying social and political equality to the Jew would brand him as outcast and alien, strip Judaism of every distinguishing excellence, revive for the Jew an exclusive Ghetto or banish him from civilized climes. And this is done in the name of society, religion and the state. What strength there must be in Judaism to awaken such antagonism! And how superficial the culture that countenances such enmity!

Origin and History. — The word Anti-Semitism owes its origin and present meaning to the ethnical differentiation of the Jews as Semites from the Aryan or Indo-European. Ethnology is made to prove that the racial traits of the Jews as Semites render them inferior and that they are legitimate objects of aversion. The theory as well as the present unfriendly signification of the term are of recent date, appearing in Germany about 1880, when the movement against the Jew and Judaism began to gain headway and spread elsewhere, as the era of persecution assumed a deadly phase in Russia. Decades earlier the word Semitism had been employed in a purely academic sense by philologists, but soon the theory of Semitic inferiority was to be asserted first by Lassen (1800–76), who ascribed to the Semite rather unflattering traits, such as intellectual sharpness, exclusiveness and selfishness in marked contrast to "the harmony of psychical forces which distinguishes the Aryan." It was reserved for Ernest Renan (1823–92) to emphasize still more strongly Semitic inferiority: he went so far as to assert that "science and philosophy were foreign" to the Semites. But if this opinion was not sufficient, he added in his 'Studies of Religious History' various other generalizations — a line in which he was quite proficient — to the effect that the Semites did not comprehend civilization in the modern sense; they were intolerant as the logical result of being monotheists, bequeathing their bigotry to the Aryans, who were naturally broader, while the Jews can attribute the hatred which has been extended to them for so many centuries to their glowing anticipation of future triumph. There can be little doubt that Renan's views had marked influence upon the growth of a hostile anti-Semitic spirit, although he urged his readers to be careful in their interpretation of his opinions. He stated expressly that Jews to-day were not Semites, but moderns, and he denied in his 'Judaism as Race and Religion' that there was such a thing as a Jewish race. The extensive literature of anti-Semitism shows throughout Renan's unconscious coloring. It was but a short path from him to von Hellwald, who called the Jew a "cancer," to Goldwin Smith, who termed him a "parasite," and to Stewart Chamberlain. During the progress of the European War of 1914–18 some anti-Semitic feeling arose in England, chiefly in connection with army enlistments.

In Ancient Authors. — The curious persistence of anti-Semitism in modern cultured writers and the faulty generalizations which they do not hesitate to proclaim as scientific truth thus finds its parallel in many famous authors of antiquity. Thus Manetho, high priest of the temple at Heliopolis and court historian under the early Ptolemies, considered the Jews descendants of the Hyksos usurpers and attributed their expulsion from Egypt to sacrilege and irreligion, stigmatizing them at the same time as afflicted with leprosy — and the story was repeated by Chaeremon and Lysimachus, to reappear in Schiller's 'Mission of Moses.' Diodorus Siculus asserts that the prevalence of a plague in Egypt led to the banishment of foreigners, most of whom entered "the country now called Judea"; at the same time he vindicates the character of Moses and the traditional religion. Apollonius Molo, a Greek rhetorician who lived at Rome in Cicero's time, pronounces Moses "a conjuror and deceiver"; and his disciple, Cicero, went further in his utterances to show his contempt. There are several passages in his 'Pro Flacco' which display his animus against a people whose wealth and influence were beginning to be feared. "Their barbarous superstitions must be fought," he exclaims; they are a nation addicted to "suspicion and slander"; they "display contempt for the Roman power." Tacitus, the model for historians, repeats the fables of Manetho as to the origin of the Jews and adds that their laws are "hostile to men and calculated to inspire the Jew with hatred and opposition to the rest of mankind" — "the first instruction they receive is to despise the gods, to forswear their country, to

forget father, mother, and children.» Horace and Martial could jest at the Jew and his ceremonies, like a modern comic journalist, while Juvenal exercised his wit more than once in the same direction, and Seneca, with all of his philosophic insight, deplores that «this abominable nation» has spread its customs everywhere and «the conquered have given their laws to the conqueror.» Under such teachings from moralists and orators, what wonder that the spirit of persecution was roused in Rome, Antioch, Lybia and the Greek cities, with its accompanying bloodshed. In this era Christian and Jew were brethren in suffering and despised alike for harboring a «detestable superstition»; and many of the accusations which in after centuries the Church hurled against the Jew were now forged against the Christian.

Apion and His Accusations.—It was Apion, an Egyptian teacher of rhetoric at Rome in the reign of Tiberius, who was probably the most violent anti-Semitic in his field of his or any day; for his statements as preserved by Josephus in the historian's treatise 'Against Apion,' are modern in their variety and bitterness, while they are as baseless, as Josephus succinctly shows. Among his many charges, Apion claimed that the Jews derived the name Sabbath from the circumstance that they were obliged to rest after journeying for six days because they were afflicted with a painful disease which the Egyptians called Sabbatosis. He asserts that they put up a head of an ass in the Holy of Holies, that they caught a Greek annually and fattened him for sacrifice. He accuses them of having produced «no wonderful men, not any inventors of arts or any eminent for wisdom.» He states that «they swear by God to bear no good will to any foreigner, especially to Egyptians, while they have no just laws of their own and do not worship God as they ought.» One of the replies made by Josephus can be given here. If the Jews, said the historian, had set up the head of an ass, it would not have been more contemptible than some of the animals, such as the goat, which the Egyptians deify. But the statement, he continued, is an untruth, which Apion would not have told had he not the heart of an ass or the impudence of a dog.

In the Dispersion.— The spirit of antagonism to the Jew which was displayed after the final destruction of Jerusalem and the gradual dispersion of the Jews, east and west, can hardly be called anti-Semitism, for it was really anti-Judaism and directed against the Jew and his religion. It was practically a religious, not a social or political crusade, in direct contrast to the modern movement which ostensibly claims to be without any religious motive and to work purely for the welfare of society and the state. Under the Romans there was often some approach to a legal residence, but the attitude of the Church toward Jews and heretics was decisive. While here and there a kindly voice was heard and occasionally priest and prince championed them, the ages until the French Revolution were periods of enforced seclusion and repressive legislation. With the iron power of religion and the state checking them at every step, the Jews became a special class, awakening to new life and vigor for a few centuries under the Moslem, but liable at any moment to be at the mercy of the mob in Mohammedan Spain or Christian Europe. Being thus the weaker class both in numbers and prestige, upon whom insult could be heaped with impunity, the morale of the Jews was not to be improved by the policy which herded them in the Ghetto and restricted them from ordinary avocations. Most of the faults which their enemies discerned in them were acquired, not hereditary. The famous dramatist who to suit the London temper of his day consciously transposed the characters in the original story at the basis of 'The Merchant of Venice' and branded the Jew as a Shylock for all time, illustrates the attitude of those centuries. Springing from these conditions came the conception of a Jew as a kind of Barabbas, in Marlowe's play, who poisons wells, murders children, commits all kinds of wickedness in his hatred of the Christian. In the heated atmosphere of the Dark and Middle Ages no accusation was too vile to fasten on the Jew. Hence their responsibility for the «Black Death,» a plague which ravaged Europe between 1348 and 1351. A myth arose, especially in Germany, that the disease sprang from the wells which the Jews had poisoned. Alleged confessions were sent from town to town and the maddened populace wreaked vengeance, forgetting that the Jews were suffering as much as their neighbors from the pestilence. In nearly every town in Germany, exclusive of Austria, about 350 in all, the Jewish communities were attacked, only three large Jewish centres by the end of the 15th century being left in that land. A further source of odium was the Jewish usurer. Owing to the canon law forbidding loans on money, the money trade of western Europe fell into the hands of the Jews in the early Middle Ages, who charged high interest, first because there was little if any competition, and secondly because of the insecure tenure of their property — emperors, prelates and powerful individuals could not be depended upon long to remain under a burden of debt to heretics. However, Christian evasions of the canon law became frequent and Jews were soon despoiled of their capital; and as reputable trades, professions and agriculture were denied them, they were forced into humbler occupations, but the taint of the money-lender has clung to them even in later days when money-lending has become the vital international pursuit. Undoubtedly it was imprudent for them to lend on interest, but they had no other resource and one can understand the sense of power it gave to a despoiled race, for which they had to pay dearly in exactions and expulsions from land to land until England was closed to them for centuries.

The Blood Accusation.—Among the many popular accusations which have been fostered upon the Jew, none is more revolting than the charge of using Christian blood for ritual purposes, notably in connection with the Passover. The origin of such a myth is still unknown, but the frequency of its occurrence the past seven centuries is not to be denied. When a decade ago Christian missionaries in China can be accused by the populace of slaying Chinese children for Church purposes, one may faintly understand how such accusations originate in ignorance and fanaticism in any age or clime. But the slander seems doubly incredible when

one realizes that there is no Jewish ritual which prescribes the use of human blood. It is needless in this connection to trace the history of the blood-accusation which appears first to have been alleged against the Jews in 1144, in the case of Saint William of Norwich, although the first literary mention dates from the middle of the 13th century, in a work of Thomas Cantimpré. The Norwich case was thus developed. A convert — and it must be confessed that converts were not averse to making mischief — said that the Jews annually sacrified a Christian child at Passover, and when the boy was missing, the Jews were accused. It seems, however, that during an attack of catalepsy he had been buried alive by his relatives. No Jew was tried or punished in Norwich, but the rumor led to charges against the Jews in other English towns. A list of similar incidents from the 13th to the 16th centuries could be given. Chaucer has mentioned the story of Little Hugh of Lincoln — a lad of eight years, whose sudden disappearance was laid at the door of the Jews with tragic consequences. Most remarkable, however, is the survival of such a myth in the 19th century, cases having occurred in 1882 (Hungary), 1891 (Corfu and Prussia), 1899–1900 (Bohemia and Prussia), and of course without a shadow of proof as to the alleged crime. It is of interest to note that in recent years August Rohling of Prague, who was most conspicuous in his efforts to prove the truth of the blood-accusation, was completely refuted by a Christian theologian of distinction — Professor Strack in his scholarly book 'Das Blut.' Christian divines have protested against the charge, which has received the condemnation of many popes and the sanction of none. Yet, such is the persistence of the anti-Semitic spirit, the accusation may reappear at any time in eastern Europe. As late as the summer of 1916 the blood-accusation was seriously discussed in northern Ireland. Its latest appearance in Russia was the Beilis case near Kieff in 1914.

Recent Movements.— In long-continued attempts to prevent the complete emancipation of the Jews in Germany about the middle of the 19th century there was ample opportunity for anti-Semitism to show its hand. Prominent leaders in politics, literature and the Church alike advocated the denial to the Jews of civil and political rights so long as they remained Jews. The ideals of the French Revolution had been forgotten. When the unwholesome era of reaction had passed and liberalism became the nation's rallying cry, the Clerical party scenting danger to absolutism began anew a crusade against the Jews as the cause of every evil, the prominence of Jewish members of the Reichstag, like Ludwig Bamberger and Edward Lasker, arousing fresh hatred. Hence arose anti-Semitism both in Germany and Austria as a distinct political program. In 1878 a Christian Socialist party, under Court Chaplain Adolf Stoecker, was formed, whose avowed purpose was anti-Jewish. "The Jews are our misfortune," said Prof. Heinrich von Treitschke (1834–96) in 1880 and for two decades the anti-Jewish agitation continued, it being made an issue in all elections and scattered riots took place, while books and pamphlets antagonistic to the Jews were published in the chief cities. It was even proposed to exclude Jews from public office, but that attempt was not successful. Bismarck acted as a check while in office and his influence led to Stoecker's retirement as court chaplain, while powerless or unwilling to prevent the growth of anti-Semitism. Renewed agitation appeared when Bismarck ceased to hold office (20 March 1890), and Ahlwardt began his attacks on the Löwe firm with their "Judenflinten" which were to be furnished the German army to ensure its defeat by the French; but his animosity was without ultimate effect, and he passed into obscurity like so many of his class, Henrici, Förster, Stoecker and the rest. In 1891 the "Verein zur Abwehr des Antisemitismus," a society to combat the attacks of the anti-Semites, was formed by prominent German authors and scientists, showing the growing sympathy of the better classes, and little by little the agitation appears to have lost much of its virus, with the disappearance, often through imprisonment for various crimes, of notorious leaders. In Austria George von Schönerer was the first to begin a distinct anti-Semitic movement (1882), whose adherents were elected in steadily greater numbers to the Reichsrath and the provincial Diets. To Luegar, mayor of Vienna, the party is indebted for its turbulent character, although of late years its excesses have been less marked. In France, Edouard Drumont's book, 'La France Juive' (1886) was the beginning of an open anti-Semitic campaign which grew into the Dreyfus affair nine years later, as books and pamphlets were published, and Drumont's paper 'La Libre Parole' became widely read. The story of Captain Dreyfus shows to what length the anti-Semites will go; if Clericalism inspired their efforts the present dissolution of religious orders in France tells its own moral. In Russia anti-Semitism has produced since 1881 a succession of disorders in many cities which culminated in the excesses of Kisheneff and elsewhere (1903) that have aroused the world to indignation. It remains to be seen if mediæval restrictions against the Jews will be abolished. In Rumania, despite the provision of the Berlin Congress (1878) guaranteeing civil and religious liberty to all citizens, the Jews continued to receive harsh treatment; became victims of popular outbreaks; were restricted in trade and profession and debarred from public schools. As the natural result of such treatment recent decades have witnessed an increasing emigration from Russia and Rumania to all portions of the globe, the great majority settling in the United States.

Future of Anti-Semitism.— In the diffusion of education and the gradual recognition of the truth that nations and creeds are partners in the great work of human betterment, one may expect a general disappearance of antipathies and animosities as the borderland of the religions is broadening and the era of co-operation and confederation is less distant than at any epoch in the world's history. This reconciliation is not to be hurried — one must be satisfied to think that the agreements among people and creeds are more numerous than the diversities which drive them apart. And the Jew will do his share to promote good will among men, as his race and religion are universalized and memories of persecution and prejudice no longer promote disharmony or

exclusiveness. There will be no Jewish problem when civil and religious liberty is everywhere acknowledged and class privileges have ceased to exist in the growing consciousness of human brotherhood.

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ABRAM S. ISAACS,
Professor of Semitic Languages, New York University.

12. ZIONISM. Past and Present.— The first Basel Congress (1897) declared that the movement it organized "aims at establishing for the Jewish people a *publicly* and *legally assured* home in Palestine"; but modern Zionism is too complex to be defined by any formula. It is a broad stream wherein flow, but partially commingled, many currents. The first in point of time is the expectation founded on Biblical prophecy and its traditional interpretation, that God's purpose concerning His people can only be fulfilled by regathering the dispersed of Judah and Israel in the land of their fathers; and that this will be brought about through a divinely-commissioned prince of the House of David — hence an "anointed one" (Messiah). This hope is expressed in many prayers of the established synagogue liturgy and even in the individual or collective "grace after meat." In those countries and times, however, wherein Jews have enjoyed a practical civic equality with their neighbors, the Messianic expectation has been for many centuries and with the vast majority rather an article of faith and a pious hope of the indefinite future, than a matter of immediate concern. Everywhere, Jews have exhibited the most ardent attachment to the land of their birth or adoption and have rendered it faithful and patriotic service. In Germany the 19th century witnessed a conference of rabbis (Frankfort 1845) who faithfully represented a large body of "Reform Jews" resolving to expunge from the prayer-book "the petitions for a return to the land of our forefathers and the restoration of the Jewish State"; while in the United States this example was not only followed by two rabbinical conferences (Philadelphia 1869, Pittsburgh 1885), but bettered by the declarations of preachers and orators that "America was [their] Palestine and Washington [their] Jerusalem." In those countries wherein the Jews have been continuously oppressed, as Russia, Rumania, Galicia, Morocco, the "dream" of re-establishment in the Holy Land as a priestly nation, under the direct protection of Providence, has naturally been more prolonged and more intense; and a strong intelligent minority — not all of whom may be characterized as "enthusiasts" — has nurtured the same hope, even in free countries. The belief that restoration was to be signalized, as of old, by some unmistakable sign of miraculous intervention, necessarily tended to discourage human initiative. Hence the many attempts, fantastic, tragic or simply premature, of pretended Messiahs (e.g., Serene, 729; David Alroy, 1160; Sabbathai Zebi, 1648); of Jewish statesmen in the service of European states (e.g., Joseph Nasi, Duke of Naxos, Venice, 1550, Constantinople, 1565); or of benevolent Jews of local prominence (e.g., Mordecai M. Noah of New York, c. 1820) to establish self-governing Jewish communities in Palestine or elsewhere proved abortive or disastrous. A less ambitious and more frankly philanthropic movement has, however, in recent times, met with a somewhat greater measure of success. In 1870 Charles Netter, acting for the "Alliance Israélite Universelle," established a farm-school near Jaffe, on land presented by the Sultan (Mikveh Israel) and in 1878 under the influence of Laurence Oliphant, active work in planting Jewish agricultural colonies in Palestine began. Baron Edmond de Rothschild now became interested and gave wise and practical aid. In 1882, and subsequently, many settlements arose. This was brought about largely through agitation in Germany and, especially, in Russia, by means of various societies which finally took the name of Chovevei Zion ("Lovers of Zion"). Stimulated by the Rumanian and Russian persecutions of 1880 and 1881, the movement continued to spread in these and other countries, including England, France and the United States; and in 1884 a conference was held in which more than 50 societies were represented. This phase of Zionism reached its height in 1890. In 1892–94, perhaps because the immigrants were so largely of Russian nativity as to raise the question of a possible complication with a persistent enemy, the Sultan's government restricted the entry of foreign Jews into Palestine, and the colonization movement received a temporary check, only recently removed. Meanwhile two other currents, always more or less active, began to flow strongly; one of them, turbulently. The latter third of the 19th century was marked in Europe by the recrudescence of separatist and nationalist sentiment. The French Revolution had made "universal brotherhood" a watchword, and this influence persisted until after the failure of the revolutions of 1848 in Germany. The Franco-Prussian War (1870) and the Russo-Turkish War (1878) marked the returning intensification of racial and national hatreds. To this a false philology and a falser anthropology brought its pseudo-scientific jargon of "Aryan," "Semite" and "Hamite." Out of the whirlpool that arose issued the two streams that have most influenced modern Zionism — renascent Jewish Nationalism — a *Volk Geist* no longer religious in motive, and anti-Semitism. George Eliot in 'Daniel Deronda' (1876) described the first; the resurrection of obsolete oppressive laws and government-incited massacres in Russia (1880 to 1906) typify the last. (See article ANTI-SEMITISM in this section). In Germany, France and Austria Jews were not killed or subjected to legal disabilities, but they were harassed and restricted in social and pro-

fessional life until finally the high-water mark of this form of persecution was reached in the "Dreyfus Affair" in France (1894–1906).

The Herzl Movement.— It may have been his observation and experience while sojourning in Paris in 1895 as correspondent of the *Neue Freie Presse* of Vienna, that led Dr. Theodor Herzl (b. 1860; d. 1904), an Austrian playwright and feuilletonist not before identified with Jewish life or affairs, to write his 'Judenstaat'; an attempt to prove that the "Jewish question" can only be solved by the establishment of a Jewish state. At first intended only for private circulation, this pamphlet was later published broadcast (1896) in German, English, French, Hebrew and Yiddish. Assuming that anti-Semitism is uneradicable; that whatever may be true as to individual Jews here and there, the Jews as a whole are not welcomed into the social life around them; and that true assimilation is possible only by means of intermarriage — which means disappearance — Herzl proposes an organized effort to obtain a territory wherein Jews may build up a state of their own. The underlying motive being political and economic, not religious, one part of the globe will serve as well as another, and he at first suggested that Argentina might be available. Later, he was brought to realize the sentimental importance of the Holy Land, and now for the first time his proposition becomes in truth Zionistic. In some of its details it was, indeed, anticipated by Benedetto Mussolino (1870), an Italian Christian, who had vainly journeyed to London in the attempt to interest Lord Palmerston and Lord Rothschild in his project. In both plans Turkish suzerainty was to be acknowledged and the holy places of other faiths made extra-territorial. For the accomplishment of its object the 'Judenstaat' suggests first, a "Society of Jews" to do the preliminary scientific and political work (since measurably realized in the Zionist organization, especially its "Palestine Committee"); then a chartered "Jewish Company," similar to the British East India or South African Company, with a capital of £50,000,000 and with headquarters in London (partially realized in the "Jewish Colonial Trust"). In July 1896, Herzl was induced to present his plan in person before representative London Jews. It was received with polite coldness or active hostility — in striking contrast to the enthusiasm evoked from an assemblage of poor Jews in the east end of that city. The difference was typical and prophetic. Indifference or opposition was manifested by the vast majority of prosperous Jews, not only in England but also in western and central Europe, and virulently in America.

Spread of the Movement.— The 'Judenstaat' nevertheless exerted an influence in the crystallization of opinion and action among Jews imbued with or susceptible to the nationalist sentiment. More important was the change gradually wrought in the attitude of Herzl himself, who, forced far beyond his primary intention of literary propaganda into the active rôle of leader and organizer of a reawakened people, and brought into contact, as not before, with religious Jews of both orthodox and reform wings, began better to understand both his people and their destiny. His new thought sprang into extemporaneous and epigrammatic utterance when he declared at Basel that "the return to Judaism must precede the return to Zion." For by this time much support had come from among the "Chovevei Zion" and kindred societies, and an alternative territory to Palestine could not be considered. The Jewish bankers and rich Jews in general continued to be either indifferent or antagonistic to Zionism. Certain orthodox rabbis opposed it as an endeavor to anticipate Providence; reform rabbis denounced it as an attempt to reverse history. Many sincere thinkers, regarding Anti-Semitism as a temporary aberration, regretted the movement as an apparent abandonment of the position won by Jews in countries where their only distinction from fellow-citizens is in creed, not in nationality — a position to be stoutly contended for wherever it has not yet been attained.

Herzl was not, however, altogether without the help of Jews of learning and distinction, and among those who early declared in his favor were representatives of the strictest orthodoxy, of the most extreme radicalism, and of the supremest indifferentism to all religion. Sympathy also came from the Gentile world from men eminent in art, literature, statesmanship and Christian theology. A call was issued for an international convention at Munich, but so great was the opposition of the most influential rabbis and laymen among the Jews of Germany that Basel in Switzerland was chosen instead, and there, on July 29, 30 and 31, 1897, the first Zionist Congress assembled. It was composed of 204 members, most of whom came as private individuals, though a number represented various organizations, especially the "Chovevei Zion" societies, which later became virtually merged into the Zionist body here constituted. This Congress issued the document known as the 'Basel Program,' defining the Zionist aim in the words cited at the head of this article and proposing the following means for its attainment: (1) The promotion of the settlement of Jewish agriculturists, artisans and tradesmen in Palestine; (2) the federation of all Jews into local or general groups according to the laws of the various countries; (3) the strengthening of the Jewish feeling and consciousness; (4) preparatory steps for the attainment of those government grants which are necessary to the achievement of the Zionist purpose. The scheme of representative organization was formulated, an executive body (Actions Comité) constituted and steps taken toward the establishment of a "Jewish national fund" and the formation of a banking corporation which should be custodian of the national fund and perform the functions which the 'Judenstaat' had suggested for the "Jewish Company." "The National fund," now very considerable, is derived from the sale of stamps placed upon all official Zionist communications, and upon other correspondence by ardent Zionists; from free-will offerings, and from payments made to inscribe persons and societies in the "Golden Book." It is to be used exclusively for the purchase of land in Palestine, and although originally intended not to be touched until it had reached $1,000,000 has recently been drawn upon for such purposes. The Zionist bank, officially known as the Jewish Colonial Trust, Limited, of London, was chartered under the laws of Great Britain,

"to promote, develop, work, and carry on colonization schemes in the East, by preference in Palestine and Syria, or in any other part of the world." Its authorized capital stock is £2,000,000 in £1 shares, of which somewhat less than £325,000 has been paid in, chiefly by the joint efforts of the very poor and upon an instalment plan. Control is lodged in 100 "founders' shares," which must be held by members of the "council of administration," who must in turn be chosen from the "Grosses Actions Comité" (Greater Executive Committee) of the Zionist organization. In 1902 a subsidiary corporation, "The Anglo-Palestine Company" was formed and a branch opened in Jaffe. Quite recently branches have been opened in Jerusalem and in Beirut. Through the Colonial Trust the Zionist organization hopes to obtain concessions of territory, and to promote therein agriculture, industry and commerce. Meanwhile it is the custodian and administrator of the Jewish National Fund and devotes its capital to the encouragement and development of private enterprise on the part of the settlers in Palestine. In 1906 its statutes were so altered as to restrict its operations to Palestine and adjacent regions.

Work of the Congresses.—The second and third congresses were held at Basel in 1898 and 1899 respectively. Organization had now so far progressed that only delegates were permitted to vote. A proposition to acquire Cyprus was rejected. With a view of making propaganda the fourth congress (1900) was held in London; the fifth returned to Basel and decided that subsequent assemblages should be biennial. Herzl necessarily became president of all congresses held during his lifetime and chairman of the smaller executive committee which had its seat in Vienna. He practically gave up his life to the work, except in so far as his refusal of salary made it necessary to continue his literary labors for a livelihood. He had interviews with ministers and crowned heads, including the Sultan and Kaiser Wilhelm II, from both of whom he received sympathetic expressions, but he was never able to report more than "progress" to the congress. Negotiations with representatives of the Egyptian and English governments for a concession of land at Al'Arish in the Sinaitic Peninsula (1898) failed because of the necessity for irrigation, as diversion of any part of the Nile water could not be permitted. Herzl continued, however, to keep in touch with the British government and at the Sixth Zionist Congress held in Basel, 23 to 28 Aug. 1903, was enabled to make public the willingness of Lord Lansdowne "to entertain favorably proposals" from the Jewish Colonial Trust, Limited, "for the establishment of a Jewish colony or settlement" in British East Africa; with the "appointment of a Jewish official as the chief of the local administration, . . . and permission to the colony to have a free hand in municipal legislation . . . such local autonomy being conditioned upon the right of His [Britannic] Majesty's government to exercise general control." The proposition to send a commission to examine the country offered and to report to a subsequent special session of the congress was bitterly opposed by the Russian delegates, who on its adoption withdrew, and only Herzl's personal pleading and the agreement that no funds of the Zionist organization should be expended by the Commission of Inquiry prevailed upon them to return to subsequent sittings. Much delay was experienced in forming and dispatching the Commission; opposition becoming meanwhile more and more pronounced in Russia, spreading to Germany, England and America. Simultaneously with the sixth Basel Congress, the first Jewish Congress had met in Palestine in the colony Zikron Jacob, under the presidency of M. Ussischkin of Ekaterinoslav, apparently never proceeding further. Ussischkin, however, organized an aggressive movement within the Zionist organization to discredit and defeat the East African project. Others proceeded with greater considerateness but no less determination. A conference of Russian members of the "Greater Actions Comité," held at Kharkof in October 1903, demanded the abandonment of all schemes of "Territorialism"; by which term the movement for Jewish state-building outside of Palestine now became known. Meanwhile the East African Commission had reported to the Actions Comité 16 May 1904. The report was not unanimous, but two of the three members agreed that the territory offered by the British government (the "Ghas Ngishu Plateau") was insufficient for a large number of Jewish settlers, and was fitted for grazing rather than agriculture. At the sixth congress, Herzl had exhibited signs of physical weakness. The worry consequent upon the dissensions that followed this congress completed what nine years of overwork and anxiety had begun, and on 3 July 1904 he died after a few days of acute illness. The seventh congress (Basel 1905), attended by more than 600 delegates, was controlled by the followers of Ussischkin. It voted overwhelmingly to "reject either as an end or as a means colonizing activity outside Palestine and adjacent lands," and that "the Zionist organization shall not engage itself further with the proposal of the British government." As a result, the Territorialist delegates, under the leadership of Israel Zangwill (q.v.), met upon the adjournment of the congress and organized the "Jewish Territorial Organization" (Ito), which has since perfected an international organization, aiming to obtain wherever feasible, "a publicly, legally assured place of settlement upon an autonomous basis" for those Jews who are persecuted in the countries wherein they now live. Within recent years, it has practically ceased activity.

Many anti-Zionists and non-Zionists have joined the Ito, and many who remain Zionists, particularly in America, have united likewise with the new organization. It has recently appointed a "Geographical Commission" embracing such men as Lord Rothschild and Hon. Oscar S. Straus.

Present Status.—The number of Zionist societies throughout the world runs well into the thousands. They are composed of members subscribing to the Basel program and paying "one shekel" (25 cents) yearly into the general fund, with such local dues as may be exacted. For every 200 shekel-payers one delegate may be sent to the congress. The societies in various countries are aggregated more or less completely into federations. The president of the Jewish Colonial Trust and the head of the executive committee has been a

citizen of Cologne, to which city the headquarters has been transferred. Here also is now published *Die Welt*, the Zionist organ founded by Herzl, and here will meet the "yearly conferences" of the Larger Executive Committee, which will probably take the place of frequent congresses. One of the most promising features in recent reorganization is the "Palestine Committee," headed by Prof. Otto Warburg of Berlin, which systematically studies industrial and other conditions in Palestine. There are many parties in present-day Zionism — some being religious, others non-religious or even irreligious, and having various economic aims, such as the "Po'ale Zion," a frankly proletarian or even socialistic organization. The "Ziyone Zionists," probably representing the old "Chovevei Zion," demand immediate work in Palestine. The "Political Zionists," headed by Nordau and Wolffsohn and embracing Herzl's closet adherents, insist on diplomatic action, while the "Practical Political Zionists," regarding autonomy as of less importance than legal authorization, favor systematic colonization in Palestine and neighboring lands under the best attainable assurances. "Moral Zionism" pleads for a national spiritual, rather than a political, centre in Palestine. Doubtless in time the fusion of these varied elements will lead to useful results. Meanwhile the Jewish population of Palestine is increasing with rapidly developing activities, agricultural, industrial, commercial, educational; while Zionism has brought closer together the Jews of different lands; stimulated anew the study of Hebrew literature and Jewish history and led to a re-examination and increasingly better understanding of the fundamentals, ethnic, religious and economic, of Judaism. A profound impetus was given to Zionism in the latter part of 1917 by Hon. A. J. Balfour's statement that "His Majesty's government favor the establishment in Palestine of a national home land for the Jewish people, and will use their best endeavors to facilitate the achievement of this object, it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine or the rights and political status enjoyed by Jews in any other country." A preliminary fund of a million dollars — a hundred million to be raised later—was at once begun by Jews in America for the rehabilitation of Palestine.

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SOLOMON SOLIS COHEN, M.D.,
Author, editor and writer on Zionism, Philadelphia, Pa.

13. THE SPIRIT OF RABBINIC LEGISLATION. In Deut. iv, 2, Israel was told: "Ye shall not add aught to the word that I command you, nor shall ye diminish aught therefrom." In the course of time, however, many new laws unavoidably crept in, along with new outward conditions, habits of life, tastes and beliefs; aside from relapses towards the old Babylonian statutes, forming a kind of common law for all Semitic Asia.

The Law-making Power.— For lack of an elective body wielding undisputed authority, with the early disuse of the sovereign assemblies of all Israel known from the book of Judges, the law-making power rested only with the learned men, who were wont to interpret and apply the existing laws, that is, with the judges. These sat not only in civil and criminal cases but also passed on all questions of morals, ritual, and doctrine, for state and church were one. After the death of Herod, it seems, any man learned in the law began to be called "rabbi," or "my master"; but the rabbi's office and spirit fell to Ezra and his companions. The leading scribes from their time down to Simeon the Just were comprised under the vague name of the "Great Synagogue." Of their names and activity hardly anything is known with certainty; but there were ascribed to them these maxims (Mishnah Aboth, i, 1): "Be slow in judgment, raise up many disciples; make a fence around the law." The last maxim led to many additions to the divine commands; for the rabbis narrowly construed the verse forbidding additions or diminutions thus: whenever the law names so and so many things to be used for one purpose; for instance, four paragraphs in the phylactery (Ex. xiii, 9, 16; Deut. vi, 8; xiii, 18), you must not use one more nor one less than this number. The grouping of the three maxims shows that the same men were judges, religious teachers and law-makers.

Making of New Laws.— New laws were worked out mainly by a bold interpretation of the Torah (Pentateuch), which when accepted by the people became part of the traditions or of the oral law. This was carried down the ages by word of mouth from teacher to pupil or in the remembrance of judicial decisions until toward the beginning of the 3d century it was written down in the Mishnah, the commentaries on Exodus and Leviticus and in the Aramaic version (Targum) of Onkelos. The Mishnah in turn became the text of the later discussions of the Talmud (see article THE TALMUD in this section), and this whole mass of religious and juridical lore proved the starting point for the rabbis of later ages. Many of the new rules were avowed innovations, bearing the name of "Gezeroth" and of "Taqqanoth" (prohibitions and institutions).

Scope and Method.— The drift of rabbinical legislation ran always along four lines: the desire to set up a "fence" or outworks around the law; to render it more humane, fitted for a higher culture; to create a more rational and spiritual worship of God than that

of the sacrificial altar; in times much later than the Talmud to adapt the Jews to the demands of their non-Jewish neighbors. It is to be understood, however, that the Talmud itself lays the groundwork for such concessions. The "fence" was sometimes thrown around a moral prohibition, such as that against receiving usury from fellow-Israelites; but it was mainly directed to ritual observances, such as Sabbath rest and abstention from forbidden foods. The rabbis frankly declared that certain acts, if done on the Sabbath, constitute "work" in the scriptural meaning, while other acts, although not capitally sinful as work, should be avoided, as they would lead to sinful work. Thus to bake or cook any food on the Sabbath is a scriptural sin; to eat anything on the Sabbath cooked or baked by a Jew, or even by a non-Jew at a Jew's request, is forbidden by the scribes. Again, the law forbids the eating of blood, but adds, "Thou shalt pour it on the earth like water"; which indicates that only blood which can be poured out, not blood which can be drawn from the flesh by artificial means, is scripturally forbidden. Yet the rabbis prescribed a course of salting and watering the flesh of mammals and fowl, although these had been bled to death in the act of slaughtering. They feared that the taste of the inhering blood once acquired might tempt the people to eat also the flowing blood. In like manner, the prohibition of leavened food on the Passover was surrounded by many minute rules which were avowedly not demanded by the true meaning of the text: for example, that against the use of "Median strong drink," that is a fermented infusion of barley. On the strength of the command (Num. xxxi, 23) for cleansing the captured utensils of the Midianites the use of dishes which have been employed for forbidden food, unless they have first been appropriately cleansed, is prohibited. Earthenware thus defiled cannot be cleansed, but must not be used at all. Thus the dietary laws of the Jews address themselves as much to the kitchen utensils as to the stomach. The thrice written words: "Thou shall not seethe the kid in his mother's milk" were construed "thou shalt not cook, eat or use flesh in milk." While admitting that fowl's flesh is not within this wider scope of the prohibition, as its mother gives no milk, the rabbis nevertheless told the faithful that the flesh of fowl must also be kept out of touch with milk or cheese. The task to keep flesh and milk and the dishes for each apart is quite an obsession to observant Jewish housewives. The desire to bring humanity into the law and the ministrations of justice was shown by construing "eye for eye, tooth for tooth," etc., into a rule under which the assailant must pay in money both for the loss of earning capacity and for the pain inflicted; while damages for the affront were deduced from Deut. xxv, 12, which hard-sounding verse was held to signify this and nothing more. The Mishnah may have been right in its construction of "eye for eye," but to change the amputation of a woman's hand into a rule that awards a solace in cash for the disgrace of a whipping is judicial legislation of the boldest type; but it was evidently borne out by ancient custom running back to the code of King Hammurabi. In the cause of mercy the rabbis taught that a man condemned to stoning should be thrown headforemost on a large stone; one condemned to be burned should have hot lead poured into his throat at the moment of being strangled. The penalty of death or of 40 stripes (at least for ritual offenses) was to be adjudged only when the culprit had been previously warned of the sinfulness of his act; and criminal proceedings were beset with such technicalities as to render conviction almost impossible. The position of women, both as wives and daughters, was much more favorable, the power of the husband and father much more restricted, than if the text of the Pentateuch alone had been regarded. Thus at the age of 12 years and a half a girl was termed "mature" and thenceforward freed from the father's control. The law for maintaining and endowing orphan daughters put them in a majority of cases in a more favorable position than the sons and heirs.

Spiritual Growth.— The returned Babylonian exiles naturally craved a more spiritual mode of worship than that of bloody sacrifices. In the land of their captivity they had worshiped God without an altar. King Josiah's reform restricting all offerings to one chosen place had taken root. The farmers of Judea could bring or even see a sacrifice but rarely; they could fulfil Hosea's prediction: "We shall make good the bullocks with our lips." Still there was the temple with its altars of incense and sacrifice; there was the caste of the "Cohanim" claiming descent from Aaron, alone qualified to minister and partly supported by a tribute paid in kind ("Terumah"), which might be eaten only in "levitical cleanness" by them and their households. Then Ezra, although of the priestly caste, and his associates and successors of the Great Synagogue, began building up the liturgy which in its outlines is used still by the Jews of our day. Its main elements are: the reading of the Shema ("Hear O Israel"), which is Deut. iv, 4–9, xi, 13–21, and the last five verses of Num. xv; the former two passages inculcating belief in God's unity and in national. reward and punishment, demand "thou shalt speak of them when thou liest down and when thou risest"; the latter to commemorate briefly the liberation from Egypt. When "thou liest down and risest" was interpreted to mean at even and morning tide, thus enabling many to join in worship. Among the benedictions drawn up to precede these readings one was written to combat three forms of false belief. It blesses the Lord "who formeth light and createth darkness," in protest against Persian dualism; it asserts that He renews on each day the work of creation, in opposition to a godless philosophy; it names Him as the maker of sun, moon and stars to rebuke those who worshiped the luminaries as gods. The other chief element is the prayer proper, modified for Sabbath, festivals, new moons and fasts, spoken in standing posture twice daily, morning and afternoon; a third recital in the night service was made obligatory only by the efforts of the patriarch Gamaliel about 100 A.D. A grace after meals was elaborated, based on the command in Deut. ix, 1: "thou shalt bless the Lord thy God for the goodly land, etc."; and other home devotions for hallowing Sabbaths and festivals at the evening meal, to denote the return of work time, special services for Passover night, and for many other do-

mestic occasions, were prepared. To the duty of reciting the liturgy was added that of hearing at stated times — Sabbaths, festivals, Mondays and Thursdays — the written Law read in public. Nehemiah's wooden turret (viii) is the pattern for the platform from which the scroll of the law is read to-day, as Ezra read it to men, women and children assembled around him. Later on lessons from the prophets were added; in the days of Jesus it had become customary to preach on a text from this lesson. Thus while sacrifices went on in the temple, the synagogue (q.v.) was ready in and outside of the holy land whenever the Israelites met, to satisfy their needs with common exercises — confession, praise, prayer, the study of God's law, comfort from the prophets, monition to faith and good works. When the temple fell, the synagogue had almost supplanted it by greater usefulness. The Pharisees, or «Haberim,» companions as they called themselves, had already taught the people that learning in the written law and in the traditions was weightier than priestly descent; as the Mishnah blunty puts it: an adulterine bastard, if a disciple of the sages, is of more importance than an unlearned high priest. The rabbis of the Mishnah and Talmud and all their successors in the rabbinical office have been either Pharisees or the spiritual descendants of the Pharisaic party, which represented the main current of Jewish thought.

Influenced by Conditions.— The rules comprised under the name of the «ban of Rabbenu Gershom» (Rabbi Gershom ben Judah, b. at Metz, 960; d. at Mayence, 1040), form the best illustration of a principle proclaimed by the rabbis and accepted by the Jewish people as a concession to the nations among whom they dwell. The date and place of the synod which issued this «ban» is rather uncertain; the latest researches fix it at about the year 1000 and at Mayence. It was pronounced against Jews living in Christian countries, and accepted by those alone, who should be married to more than one wife at a time, or who should divorce a wife (except for notorious adultery) without her consent, or who should put obstacles in the way of one apostatizing under fear of death when he tried to return to the fold. But this decree of comparatively late date is only the outcome of the principle declared by Samuel at Nehardea (about 235 A.D.): «The statute of the kingdom is law»; that is, when the law of a country does not demand from the Jew anything contrary to the law of God, he should obey the law of the country in which he lives.

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LEWIS N. DEMBITZ,
Author of 'Jewish Services in Synagogue and Home.'

14. A CENTURY OF EMANCIPATION. Up to the close of the 18th century the Jews had no political or civil rights anywhere. The only serious attempt at remedying this state of affairs before that time was made in England in 1753, when Parliament passed the Jews' Emancipation Bill, but so great was the outcry raised throughout the country that it was immediately repealed. In Germany a kindlier spirit had arisen in the latter half of the 18th century, the era of enlightenment, notably through the influence of Moses Mendelssohn (q.v.). Lessing's friendship had resulted in 'Nathan the Wise,' and another friend of the «Jewish Socrates,» Christian Wilhelm von Dohm, made the first extended plea for the political emancipation of the Jews in his work 'On the Civil Improvement of the Jews' (1781). In 1782 the Emperor Joseph of Austria issued the famous Toleration Edict; its object was not the political but rather the educational emancipation of the Jews; schools were established in which other branches than the Hebrew, the only subject of instruction then offered to Jewish children, were taught. After Mendelssohn's death the French orator and statesman Mirabeau (q.v.) published a book entitled 'Moses Mendelssohn and Political Reform' (London 1787), in which he urged the cause of the Jews.

France.— The country in which these seeds first bore fruit was France. A year before the French Revolution the Royal Society of Sciences and Arts of Metz offered a prize for the best essay on the subject «What are the best means to make the Jews happier and more useful in France?» Nine were offered in competition for the prize which was awarded jointly to three contestants, one of whom was the Abbé Gregoire, to whose efforts as a member of the National Assembly the passing of the bill on 27 Sept. 1791, granting full rights of citizenship to the Jews of France, was largely due. Some time earlier (23 Jan. 1790) the assembly had voted rights of citizenship to the so-called Portuguese Jews. The status of the Jews also engaged the attention of Napoleon I. In 1807 he convened in Paris an assembly of Jewish notables from the various sections of France and Italy, known as the French Sanhedrin, to which he propounded a number of questions, the sixth of which was «Do the Jews who are natives of France, and are treated as French citizens by the law, look upon France as their fatherland? Do they consider themselves in duty bound to defend it? Are they obliged to obey the laws and satisfy all the demands of the civil code?» These questions were answered with a decided affirmative; the emperor was assured that the Jews looked upon other Frenchman as their brethren and upon France as their native country. The final step which placed the Jews for once and all on terms of absolute equality with all citizens of other faiths was taken on 13 Nov. 1830, when the Minister of Education offered a bill providing for the payment of the salaries of the rabbis from the public treasury as was the case with Catholic priests and the Protestant clergy. This became a law 8 Feb. 1831. The last vestige of mediæval discrimination against the Jews disappeared when the Supreme Court abolished the oath «More Judaico» in 1846.

Holland.— In the national convention of the Batavian Republic a bill was passed on 2 Sept. 1796, which declared that «No Jew shall be excluded from rights or advantages which are associated with citizenship in the Batavian Republic and which he may desire to enjoy.» Since then the Jews of Holland have had all political rights; how absolutely their equal

standing with other citizens is assured appears from the adoption of a resolution by the legislature in 1845 giving the widows of rabbis the same pensions as the widows of the Protestant clergy.

Germany.—In none of the many German states was political emancipation definitely granted to the Jews before 1848. True, the Prussian edict of 11 March 1812, issued by Frederick William III at the instance of his liberal-minded Prime Minister, Hardenberg, did declare the Jews to be natives and granted them citizenship on the condition of their taking family names and using the German or any other living language in place of the German-Jewish jargon. They were given permission to settle anywhere and to acquire real estate; all special Jew taxes were abolished; in return they had to assume all the obligations of citizenship, notably the payment of taxes and military service. After the Congress of Vienna and the fall of Napoleon a spirit of reaction set in and this edict remained practically a dead letter. Not till 1848 was definite political emancipation granted the Jews of Prussia. Paragraph 4 of the law of 5 Dec. 1848 declared that "All Prussians are equal before the law. Class privileges are not recognized. Public offices are open to all who are capable of filling them," and paragraph 11 stated that "The enjoyment of political rights is independent of religious confession and of membership in any religious association." In that same year the delegates from the various German states in Parliament assembled at Frankfort-on-the-Main formulated a statement of the fundamental rights of the German people. Paragraph 13 was to the effect that "The enjoyment of civil and political rights is to be neither conditioned nor limited by religious belief; neither are political duties to be interfered with by it." The chief champion of the cause of Jewish emancipation in Germany was Gabriel Riesser (1806–63). Notably during the fourth and fifth decades of the 19th century when this question was prominently before the legislatures of the various German states was he active. In each one of these states the Jewish question had a varied course, but in time one after the other removed the civil disabilities of the Jews, Hanover and Nassau in 1848, Wurttemburg in 1861, Baden in 1862, Saxony in 1868, and Bavaria last of all in 1869.

England.—In England the final struggle for Jewish emancipation began in 1830 and continued till into the 20th century, when in 1903 the religious test at London University was abolished with the appointment of a Jew (Israel Gollancz) to a professorship. In 1829 the bill removing the civil disabilities of the Catholics had passed the Houses of Parliament. The following year Robert Grant introduced a bill in the House of Commons granting the same boon to the Jews; this bill was passed in the Lower House in 1833 but was defeated in the House of Lords; the same fate met the bill in 1834; in fact the bill was passed 10 times in the House of Commons and rejected as often in the Upper House before a Jew was finally permitted to take his seat in the House of Commons in 1858. In 1835 a bill was passed called the Sheriffs' Declaration Bill permitting Jews to hold the office of sheriff. In 1836 David Salomons was elected sheriff in London. In 1845 a bill became law whereby Jews were permitted to hold municipal offices. The Religious Opinions' Relief Bill passed in 1846 removed some minor disabilities from Jews and dissenters from the Established Church. The situation became particularly acute when Lionel de Rothschild was elected to Parliament in 1847 for the city of London. A bill was introduced in December of that year to permit him to take his seat. It took the course of its predecessors of like nature, passing the Commons, and being thrown out by the Lords. The year 1850 witnessed a similar experience. David Salomons who was elected a member for Greenwich in 1851 took the bull by the horns when he persisted in holding his seat although ordered to withdraw by the speaker; he aggravated the offense when he voted "no" on a motion for adjournment made after his refusal to withdraw. The Prime Minister now ordered that he leave the chamber. Salomons addressed the House and although the members sympathized with him they sustained the Prime Minister. The case was carried to the courts; the decision was against Salomons on the ground that he had no right to vote before taking the oath prescribed for members of Parliament. He was compelled to pay a fine of £500 for each time he had voted. Three times more, in 1853, 1856 and 1857, the Commons passed the bill, but the Lords persisted in rejecting it; finally in 1858 a bill passed both houses which declared the House of Commons competent on occasion to modify the form of oath by special resolution. Lionel de Rothschild by such special resolution of the House was now permitted to take his seat, omitting from the oath the words "on the true faith of a Christian." In 1860 this concession was made a standing rule and in 1866 the Parliamentary Oaths' Act was passed which omitted the objectionable words altogether and thus removed the discrimination which marked off the Jewish members. The University Test Act was abolished in 1870; in 1885 the first Jew (Baron Nathaniel de Rothschild) became a member of the House of Lords, and in 1890 all religious tests for all offices excepting the kingship itself were removed and all offices were thrown open to all subjects of the realm without distinction of creed.

Austria.—The Toleration Edict of Joseph II was of no significance as far as the political emancipation of the Jews of that realm was concerned. There was no definite step toward removing civil or political disabilities until the year 1846 when the oath "More Judaico" was abolished; on 25 April 1848 the new Constitution granting free exercise of religion and civil rights irrespective of religious creed was promulgated; five Jewish deputies were elected to the first Parliament which convened after the new Constitution went into force. On 28 October of that same year the special Jewish taxes were abolished. As in a number of German states a period of reaction set in in Austria after the revolutionary fire of 1848 had spent itself, and the Jews suffered from this reactionary spirit; the rights granted them were revoked; when the concordat was signed in 1855 whereby the reins of government fell altogether into the hands of the Clerical party, the anti-Jewish spirit was accentuated and some mediæval decrees touching the status of the Jews passed at

this time. The reactionary regime was in power till July 1859 when the peace of Villafranca was signed. Soon thereafter, in February 1860, some new legislation in reference to the Jews was framed of a more liberal spirit. On 21 Dec. 1867 the new Constitution was issued, which established the political equality of all citizens of the empire regardless of religious faith.

Hungary.— In the other portion of the dual kingdom political emancipation was greatly agitated in the fifth decade of the 19th century. As early however as 1790 the Jews of that land had laid before Leopold II a petition requesting equality with other citizens; the following year the Diet passed legislation «De Judaeis» affording the Jews protection. At the same time a promise was made that a commission would be appointed to look into the situation and to report measures for the betterment of their condition. A half century passed before any real relief was afforded. The Diet of 1840 passed a law which allowed all Jews of good repute whether native or naturalized to reside anywhere except in mining towns; this law also permitted them to study for the professions and engage in manufacture; however, their right to own real estate was restricted to the cities. In 1846 the toleration tax was abolished. Nowhere did the Jews take so prominent a part in the revolutionary struggle of 1848 as in Hungary. This was appreciated by the party of freedom and in the national assembly of the Hungarian Republic held at Szegedin in 1849 a bill was introduced and passed on 28 July granting the Jews all rights of citizenship. This republic was of very short duration. The Jews enjoyed their newly won rights just two weeks. The overthrow of the Hungarian Republic was followed by the most stringent restrictive measures and the Jews were made to suffer severely for their sympathy with and participation in the revolutionary struggle; a very heavy tax was imposed and every right that had been granted was revoked. The question of Jewish emancipation was not agitated again till 1861 but no remedial legislation was passed till 1867. In December of that year both houses of the Hungarian Parliament passed a bill granting political emancipation. Full emancipation was secured when on 11 May 1896 the Upper House after two previous rejections concurred in the bill passed by the Lower House two years earlier recognizing the Jewish religion as one of the legally acknowledged faiths of the country.

Denmark.— When the deliberative assemblies were established in the various provinces of Denmark by the laws of 28 May 1831 and 15 May 1834, the Jews were granted the right to vote but they were not permitted to stand for election to Parliament; the Constitution adopted 5 June 1849 granted them full political rights and removed all restrictions.

Belgium.— The Jews were emancipated politically in 1815.

Italy.— When Italy passed into the dominion of Napoleon I the Jews of that country secured the advantages of the liberal French legislation. With the fall of Napoleon and the reinstatement of Pius VII, the Jews were deprived of the liberties they enjoyed under French rule and the old mediæval legislation was re-enforced. This continued till 1848, the revolutionary year, when as everywhere else a brighter day dawned for the Jews of Italy; however, in the reaction which followed they were again forced into mediæval conditions. This continued till 1859 when with the achievement of Italian unity the Jews received full political rights; in Rome alone were those withheld but there, too, they were granted upon the downfall of the papacy as a temporal power (September 1870).

United States.— The first amendment to the Constitution announces unequivocally the separation of church and state; all men are equal before the law whatever their religious creed; however a number of the 13 original States which adopted State constitutions before the Constitution of the United States was framed demanded religious tests of a character to exclude all but believing Christians from holding office. The constitution of Delaware of 1776 had such a test which was abolished in the amended constitution of 1792. The constitution of Massachusetts which had a similar provision was not amended till 1822. According to a constitutional provision of New Jersey only Protestants could hold office; not till 1844 was this article amended; the article of the constitution of Pennsylvania which posted a belief in the Old and New Testaments as prerequisite for office-holders was amended in 1790 to the effect that belief in God and the future state should be the condition; Vermont repealed the religious test of the constitution of 1777 in 1793; Rhode Island, Connecticut, Virginia and Georgia required no religious tests in their original constitutions. In Maryland a long struggle was necessary before the provision of the constitution of 1778 requiring belief in the Christian religion as a condition for office-holders was abolished. The Jew bill introduced in the legislature in 1818, whose object was to remove the civil disability of the Jewish citizens of the State, was not passed till 1826. The new constitution adopted in 1851 still contained the original clause accompanied, however, by a special provision for the Jews; the constitution of 1867 definitely removed all religious tests excepting the belief in the existence of God. The constitution of North Carolina of 1776 made a belief in the Protestant religion a condition for holding any office of trust or profit; in 1835 the words «Christian religion» were substituted for «Protestant religion»; this emancipated Catholics, but not Jews; not till 1868 was this remedied, when only such were declared as being disqualified for office who «shall deny the existence of Almighty God.»

Rumania.— In 1878 the representatives of the powers of Europe assembled at the Congress of Berlin made the political and civil emancipation of the Jews one of the conditions of the independence of Rumania. These rights have not been granted, and alone among European powers Rumania refuses to grant her Jewish citizens the rights of men. There have been reports now and then, however, since the Russian Revolution that Rumania will emancipate the Jews within her borders.

Russia.—Long after emancipation had come to the Jews of western Europe, repressive laws of the most extreme character continued in

force against them in the land which contained over half the Jews in the world. Protests by leading statesmen and citizens of all faiths in the free lands of Europe and America were of no avail. The United States had gone so far as to refuse to renew its commercial treaty with Russia because American Jews were not permitted to enter Russia though holding the American passport. Then burst upon a startled world the Russian revolution. March 15, 1917, became one of the epochal days in the world's history. The oppressed classes in Russia were freed. Among them the Jews. On 5 April the provisional government abolished all limitations on rights of Russian citizens and friendly aliens based on race and religion. On 20 April all words offensive to Judaism were stricken out of the official oath taken by Jews. Joy reigned in the Russian Jewries, in truth among Jews and all lovers of freedom throughout the world. The Jews in the two chief cities of Russia decided to commemorate the emancipation of Russian Jewry in striking ways, the Jewish community in Petrograd by establishing a Temple of Equality in connection with an international institute for the study of national problems, and the Jewish community of Moscow by establishing a special fund. To become really effective as the law of the land the decrees issued by the various cabinets that have been in power since the revolution must be ratified by the Constituent Assembly. The Constituent Assembly whose duly elected delegates met on 18 Jan. 1918 and organized by electing a presiding officer unwelcome to the Bolsheviki and extreme social radicals is being blocked from further assembling by these extremists. No one can tell what the future may bring forth. But for the present Russian Jewry is free!

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DAVID PHILIPSON,
Professor of Homiletics, Hebrew Union College, Cincinnati, Ohio.

15. THE SYNAGOGUE. The origin and development of the synagogue, the story of its simple beginnings from the Babylonian captivity to its appearance in Palestine, to spread from land to land with the dispersion of the Jewish people; the gradual rise of synagogue prayers and customs, which form so vital a factor in the survival of Judaism;— these are subjects which are full of interest, and not from the standpoint of archæology alone. For the synagogue is a living organism — it means more than edifice or meeting-place for prayer. It spans the entire history of Israel and is coextensive with the Jewish consciousness from the earliest dawn of an organized worship and discipline, rite and doctrine, law and custom. The synagogue is thus school, assembly, home, law-court, as well as house of prayer; and sometimes in an era of persecution it was a fortress also, wherein the Jew resisted the enemy and perished amid the flames of the sanctuary. The history of the synagogue is, then, primarily the history of the Jewish people and their religion, although in the present sketch the subject will be limited to the story of the synagogue in its current meaning.

Origin.— It was when the Jews went to Babylon under Nebuchadnezzar in the 6th century before the common era that the desire for public worship and instruction gave rise to the synagogue, contradistinguished from the Temple with its forms and sacrifices. Tradition traces a synagogue to King Jehoiachin of Judah, who, borne captive to Babylonia with his people, founded such a place of assembly at Shafjatib, in the district of Nehardea. Whether the legend be historical or not, synagogues must have spread in the land of the captivity and been transplanted to Palentine on the return under Ezra. For the post-exilic Psalm lxxiv, 4–8 complains of the destruction of places of worship and Ezra (in Neh. viii) is represented as summoning the people to prayer and instruction, he himself reading the law as he and the heads of the community stand upon a wooden platform in the centre of the worshippers. To this rude beginning can be traced the modern synagogue.

Name.— Synagogue is but one of many appellations, and is merely the Greek translation of the Hebrew "Beth ha Keneseth" ("the house of meeting"). It is not found in the Old Testament, but is common in the New, and applied to all places of worship outside of the Temple which were so numerous throughout Palestine and the Eastern world. In the Apocrypha references are made to a "Proseuche" ("house of prayer") and the word is found in Josephus and Philo and in Juvenal, too, in an often cited passage, usually, however, with a more restricted meaning than synagogue. It is of interest to learn from the Talmudic tradition (Pesachim 88 a) that Abraham called his place of prayer a "mount," Isaac a "field," and Jacob a "house." The first Temple was called "Beth El," "house of God" (1 Kings vii, 12). In later Biblical books the term "Moëd," "place of assembly," is used (Lam. i, 4; Ps. lxxiv, 4, 8).

Growth.— The spread of the synagogue was rapid with the diffusion of the Jewish in the immediate centuries before and after the fall of Judæa. There are distinct references in the Talmud to the fact that in Jerusalem were 480 synagogues, so large was the host of foreign Jews who visited the Temple and necessitated the creation of many places of prayer. There were synagogues of the Alexandrians, Libertines, Cyrenians, Elymæans and Asiatics. In the reign of Augustus Cæsar, Rome had many synagogues, which attracted Roman visitors, leading to the conversion of men and women of eminence, and arousing respect for Jewish Sabbaths and festivals. A few centuries later when the Christians of Rome burned down a synagogue, and the usurper Maximus commanded the Roman Senate to rebuild it at the expense of the state, he was called a Jew by

Ambrosius of Milan. In Egypt, with nearly a million of Jews, according to Philo, the famous synagogue at Alexandria was one of the wonders of its century. In the New Testament many are the allusions to the synagogues of Damascus, Antioch, Athens, Corinth and elsewhere outside of Palestine and to Nazareth and Capernaum within its limits. To the Jewish colonies which went from Rome to the south of France and to Spain is due the synagogue's appearance in Europe. To the east and the west and the isles of the sea, the synagogue spread, and the spirit of persecution which aimed at its destruction only served to maintain and develop its strength. By the running stream or sea shore, so as to admit of ablutions, in those early days the house of prayer was erected, and if in the crowded city no private roof was to exceed it in height. And often beyond the beaten track of travel, in the wilderness and deserted village, the little Jewish synagogue would be built, to become a refuge for the persecuted in after centuries. Several of the oldest existing synagogues in Europe, so runs the tradition, date back to such an origin. Often, too, the synagogue was erected close to the tombs of famous rabbis — a custom common in early times among Christian and Mohammedan. Visiting Europe and the East toward the end of the 12th century, Rabbi Petachia tells in his 'Travels' (Benisch's ed., London 1856) of seeing at Nisibis two synagogues built by Ezra the Scribe, at Bagdad three besides that which tradition refers to Daniel. In Babylon he found 30, all the worshipers being bare-footed. At Tiberias he visited the synagogue ascribed to Joshua, at Damascus the one supposed to be erected by Elieser ben Asariah, who lived about the 1st Christian century. In Alexandria, Egypt, is the Elijah synagogue, so-called because legend claims that the prophet for some time dwelt on the spot, and into its neighboring small houses sick Jews and Mohammedans are taken, in the hope that Elijah will perform miracles in their behalf. Making every allowance for pious credulity, a reasonable antiquity for such synagogues must be admitted. The Karaite synagogue in Jerusalem dates from the 9th century. The synagogue on Rabbi Simon ben Jochai's grave near Safet and Rabbi Meir's synagogue in Tiberias are of venerable age.

Famous Synagogues.—The roll begins with the Basilica of Alexandria, destroyed when the Jewish community was swept away in a whirlwind of persecution (about 116 of the common era). He who never beheld it, to paraphrase the description in the Talmud (Sukkah, 10 b), never saw the majesty of Israel. It rose like a basilica, colonnade within colonnade, filled at times with a throng of people twice as great as went out of Egypt with Moses. There, too, were golden chairs inlaid with precious stones corresponding in number with the 70 elders of the Sanhedrim, each of which seats cost 25,000,000 golden denarii. In the centre on an elevation of wood stood the choir-leader. Each guild had its own place, so that a stranger might recognize his trade and join his coworkers. So large was the edifice that the responses of the congregation were directed by a flag signal. Spain had numerous synagogues of importance. When Cordova fell in 1148 its magnificent synagogues were destroyed. In Toledo at its height of prosperity, there were many splendid synagogues, two of princely magnificence, which still exist after varied transformations. The Samuel Abulafia synagogue (1357), El Transito, later transformed into a church, was built partly in the Gothic, partly in the Moorish style. It consisted of several naves separated from each other by columns and arches; the upper part of the walls was decorated with delicately cut arabesques, within which, in white characters on green ground, can still be read the 80th Psalm in Hebrew. On the north and south sides are inscriptions in bas-relief, reciting the merits of the founder and of Don Pedro of Castile. Once the treasurer and adviser of Don Pedro, Abulafia died under the torture, three years after his synagogue was completed (1360), happily unconscious that the edifice about a century and a half later, with the expulsion of the Jews from Spain, was to be converted into a church, to remain to our time an ornament to the old Castilian city. Such changes were common in the Middle Ages. The first synagogue in the north of Europe was built in 1598 by the Portuguese Jews of Amsterdam — a historic community with its memories of Spinoza. When the Portuguese synagogue was originally erected in London in 1702, the Quaker architect who would receive no compensation except the actual cost (£2,750) of the building, incorporated in the roof a beam from a royal ship presented by Queen Anne. Prague can point to a synagogue, around which fanciful legends cluster, which in parts dates back to the 12th century, and Worms, as fruitful in legend, can show a portion of its old synagogue which was not later than the year 1100. Stately was the Venice synagogue, built in the 16th century, with a splendor of ornamentation that attests its wealth and taste.

Under the Ban.— If books have their fates, synagogues would also seem to have had their destinies, which were not always of the happiest kind. Their forcible conversion into churches was often a sign of the times. As early as the 5th century Theodosius II prohibited the Jews from building new synagogues. A century later Justinian I renewed that decree with increased severity. When the Jews of Genoa asked permission of Theodoric to put their synagogue into better repair he granted it grudgingly, but later showed his liberality in condemning the Roman commune to make compensation for the synagogue which a mob in that city had burned. Pope Gregory I razed to the ground a synagogue in Sicily. Calipb Omar I was as intolerant, including the church in his orders. Omar II (717–20) wrote to his governors: "Do not pull down a church or a synagogue, but do not allow new ones to be built within your provinces." At the Council of Oxford (1222) Stephen Langton forbade the Jews of England to build synagogues. Alfonso X of Castile (1252–84) may have called the reader of prayers in a Toledo synagogue, Don Zag, an eminent astronomer, "his sage," but his code of laws contains a prohibition against building new synagogues. Pope Eugenius IV, in a letter to the bishops of Leon and Castile (1442), also decreed that Jews should build no more synagogues. As late as 1612 in Hamburg Jews were not allowed to have synagogues, but such restrictions did not last long. They were permitted in a few years to meet for religious

worship on their threat that otherwise they would leave Hamburg in a body, with their capital and business connections. On the other hand, instances are not rare of kindlier consideration. Chrysostom may have fulminated against the synagogues of Antioch and called them infamous theatres and dens of robbers, but Theodosius the Great (379–95) ordered the bishop of Callinius in northern Mesopotamia, who had caused a synagogue to be burned down, to have it rebuilt at his own expense. The Byzantine emperor, Arcadius (395–408), protected the synagogues when they were attacked by the clergy in Illyria. Cyril of Alexandria, whose zeal led to Hypatia's death, aroused the mob to destroy his synagogue; but Theodosius II compelled the clergy and mob of Antioch to restore the synagogues to their owners. In 1419 Pope Martin V issued a bull, in whose preamble it was expressly stated that Jews should not be molested in their synagogues and "their laws, rights, and customs be not assailed"—and he was not the only Pope who protested against bigotry. In the days of Innocent III a complaint was made at Sens that the synagogue was higher than the church, which offended the sensibilities of the churchmen. In the 14th century in Rome, church and synagogue were built in close proximity, without arousing the ire of the populace. Five centuries later in many cities in the United States, churches are invited to occupy synagogues at times of emergency, and Jewish and Christian ministers, with their congregations, join in service on national holy days.

Synagogue Architecture.— There is no distinct Jewish architecture — the synagogue's form has varied with its environment and the architect's artistic genius. Jewish law, it is true, concerns itself with the height and the position of the edifice — it must be higher than private dwellings and must face the east; otherwise there is no restriction. Hence there can be synagogues octagonal and quadrilateral although the cruciform arrangement would be hardly admissible. The readiness with which prevailing styles were adopted is proved by the remains of synagogues in Palestine, which Kitchener in the 'Quarterly Statement' for July 1877 of the Palestine Exploration Fund reduces to 14, of which 11 are known and 3 doubtful. He finds that these ruins show similarity in plan and detail of ornamentation, with the same class of moldings, and pointing to same date of erection. He concludes that the Roman emperors Antonius Pius and Alexander Severus, who were great builders and restorers of temples in Syria, inspired and aided the erection of these synagogues, which were built by Roman labor. "The dressing, size and nature of the masonry is certainly Roman." Kitchener gives as their date 150–300 of the common era. The Worms synagogue is Romanesque, the Old New synagogue at Prague, Gothic. The Santa Maria la Blanca in Toledo, formerly a synagogue, but changed into a church in 1405, is built after most approved Moorish-Spanish design. The plan is that of a basilica, the ground floor tiled, being an oblong square about 90 by 65 feet, divided into five naves or aisles, divided by four rows of octagon pillars, nine in each row. Horseshoe arches of peculiar Moorish pattern rise from these columns. Over the arches, whose spandrils are carved into elegant rose patterns, is placed a second arcade ornamented with pure Byzantine work, appearing like stonelace. A third series of stalactite archlets rests upon double pillarets, crowned by an elaborate frieze reaching to the roof, which though of wood has the durability of rock, and black with age, still shows traces of gold ornamentation. In 1550 this building was used as a Magdalen asylum, and at the French invasion in 1792 was appropriated for military barracks. In Trani, Sicily, is a Gothic Catholic church, which was originally a synagogue — in the early centuries the Jews of Sicily were numerous and prominent. In Poland and parts of Russia are wooden synagogues, whose flat roofs show indubitable signs that they could harbor cannon, when the Jews were forced to defend themselves. The variety of synagogue architecture illustrated in the splendid new places of worship that now adorn the chief cities of Europe — such as Strassburg, Berlin, Paris, Vienna, Florence, Turin, Munich, Warsaw, Cologne, Budapest, etc., — shows that the synagogue to-day is as adaptive as of old and runs the gamut of every style from the Classic to the Renaissance. This freedom and eclecticism are seen at their best in the United States, where within the past few decades in particular a large number of magnificent new synagogues have been erected — the reform congregation calling them preferably "temples." The oldest American synagogue is at Newport, R I. (1762), in the Colonial style of the period, built of brick, with a carved stone cornice and porch. With the increase in population and wealth, the synagogues have rapidly improved in size and beauty. The styles have been largely Moorish, as in Temple Emanu-El, New York, but the Byzantine, Romanesque, Renaissance and Classic, with their various blendings, are also represented. The first regular synagogue in New York was erected in Mill street in 1729, a simple structure which was later taken down and more pretentiously rebuilt.

The Inner Synagogue.—The interior architecture of the synagogue has been to a certain degree retained from the earliest times. The centre of the main floor is occupied by an elevated platform, on which stands the desk, from which the lessons from the Pentateuch and the Prophets, and in some communities the regular prayers, are read. This platform is usually called *Almemor*, from the Arabic *al-minbar*, "the chair," or by its Talmudic name *Bema*, the Greek Βῆμα, a speaker's platform. It recalls Ezra's wooden pulpit, from which he addressed the people (Neh. vii, 4). Directly facing the entrance from the vestibule which is usually at its western end is the Ark, termed *Teba* or "box" in Talmudic phrase, but *Aron* in later Hebrew, a closet or niche in the wall, in which the scrolls of the Law or Pentateuch are kept, and before which a curtain is suspended. A perpetual light is hanging in front of the Ark, symbolic of immortality. In the new American synagogues reading desk and pulpit are combined before the Ark. The olden tabernacle is thus powerfully suggested by the inner arrangement of the average modern synagogue with the curtain screening the Ark, like the curtain which concealed the Holy of Holies. The main floor is reserved for men and boys, the gallery, or in smaller buildings, a side room is set aside for the women. The separation of

the sexes, however, has rapidly disappeared in American synagogues of the progressive school; and family pews have been introduced, while the men no longer pray with covered heads in Oriental fashion. The interior equipment of the synagogue is capable of splendid decoration. The Ark is often elaborately ornamented, and while plastic art has received little if any encouragement, carved wood or rich marbles are often employed and Mexican onyx, gold and mosaics used with fine effect. The Italian synagogues are remarkable for their costly embroidered curtains and scroll coverings. Usually the walls are plain, but at times are elaborately decorated, according to the resources of the congregation, the windows being either severely simple or of richly stained glass. The tendency to-day among some of the wealthiest temples is to abandon almost wholly the traditional features of the synagogue in the effort to secure the acoustics, comfort and ventilation of a perfect lecture-hall or auditorium, whatever becomes of the "devotional ensemble," in which respect some churches are equally at fault.

Synagogue Administration.— The highest functionary is the rabbi, which signifies "my teacher"; originally in days of national autonomy a judge and adviser in civil and criminal matters and religious questions, to-day his function in the United States and in centres of Western civilization, as distinguished from the Orient and Eastern lands in general, is chiefly to preach. In countries where Jewish ecclesiastical law is scrupulously followed and the traditions strictly observed, he decides on religious and theological matters. The reader in the synagogue is called *hazan*, "overseer," from which comes the Christian *episkopos*, an official whose duty it was to ensure the correct reading of the service. He is termed also *cantor* and possesses high musical abilities. The *shammash* is sexton or general servant of the congregation. The business head is called *parnas*, "provider," or merely president in new-fashioned synagogues, who with the vice-president, and a number of trustees, manage the temporal interests. A useful functionary existed after the Babylonian Captivity, when the Hebrew was disappearing as the language of the people, called a *methurgeman* ("dragoman") or "interpreter," who used to translate into the vernacular the lessons from the Hebrew Pentateuch. The primitive synagogue had other officials, whose duties are now relegated elsewhere. A helpful service was rendered by the 10 *Batlanim*, or "men of leisure," whose presence was necessary as a legal quorum for worship. These were either people of independent means or stipendiaries of the congregation. This quorum of 10 was called *Minyan*. To become a member of the synagogue, no formal subscription to a creed is exacted; the mere fact of being an Israelite is sufficient. Each synagogue is autonomous, although of recent decades unions of congregations, under various names, have been established in England, Germany and the United States. Their functions, however, are largely educational, and they do not interfere with the independence of any constituent member. The synagogue is supported by seat or pew assessments and by voluntary offerings. There are never collections except for charitable or patriotic causes. Paid officials are elected by the trustees or members, for short or long terms, but sometimes for life.

Ritual and Customs.— To describe briefly the liturgy of the modern synagogue it is an evolution from the ritual of the primitive place of meeting, with its suggestions of the Temple service. It consists of portions from the Pentateuch and the Psalms, with certain selections, called "Amida," or "Shemone Esre," "the 18 benedictions," and additional passages of ancient origin. With the centuries and enforced emigration from land to land, the simple elements in the liturgy were developed and amplified, additions were constantly made by poetasters and local rabbis, until with the sermon the length of the service was unduly protracted and its solemnity disturbed. Hence of late decades condensation and elimination have taken place, while music and the mixed choir have been introduced in more progressive synagogues of Europe and the United States. In these, too, the Hebrew has been curtailed and many portions of the service read in the vernacular, particularly the lessons from the Pentateuch and Prophets, and the prayer for the government, whether it be kingdom, empire or republic. There is a deep vein of solemnity in the old-time liturgy, although its *leit-motif* is more national than individual. The atmosphere, however, is far from narrow and God is usually described not as God of the Jew alone, but of "all flesh," "all nations," of humanity. At the same time the lesson is enforced that men are brethren and religion is a daily exercise and not a weekly parade. As the liturgy was composed at times when the spirit of persecution was most rampant, its breadth and beauty are all the more notable. It must not be imagined, however, that the synagogue was like a monastery, and its spirit ascetic and unduly rigid. It was the centre of communal activity, the meeting-place for all interested in benevolence, education and social welfare. Here came the bridegroom, the Sabbath after his marriage. Here was brought the babe on its first outing. Here worshiped the young mother, when she recovered from illness. Here publicly prayed the orphan and the mourner when their dear ones were taken from them. Here, too, the sinner did penance — was not Uriel Acosta flogged in the Amsterdam synagogue in 1633, although in "a retired corner?" There are records extant of public announcements on Saturdays in the synagogues of the results of law suits and of properties in the market. Lost articles were openly cried, and a proclamation of stolen goods was instituted. The moral law, both as regards commercial honesty and domestic virtues, was publicly enforced. "Be one of the first in synagogue," reads a quotation from a 14th century Jew in the *Jewish Quarterly Review*, III, p. 463, "Do not speak during prayers, but repeat the responses and after the service do acts of kindness. . . . Wash me clean, comb my hair as in my lifetime, in order that I may go clean to my eternal resting-place, just as I used to go every Sabbath evening to the Synagogue." The sermon lost its hold during the Middle Ages. The rabbi was more of a teacher than preacher, but Jewish pulpit eloquence revived with the century of emancipation and to-day the rabbi of the best type wields influence as preacher. The

olden synagogue was the first "institutional church" and it maintains its essential character.

Bibliography.— Dembitz's 'Jewish Services in Synagogue and Home'; Abraham's 'Jewish Life in the Middle Ages'; earlier volumes of Graetz's 'History of the Jews'; Rosenau's 'Jewish Ceremonial Institutions and Customs.' For readers of German may be recommended Dr. Frauberger's monographs on the art, archæology and architecture of the synagogue issued by the Frankfort (A. M.) Society for the Study of Jewish Monuments of Art.

ABRAM S. ISAACS,
Professor Semitic Languages, New York University.

16. REFORM JUDAISM. Reform Judaism in America finds its roots in the beginning of the reform movement that took place in Germany in the first quarter of the 19th century. The cause of the religious advance of the Jew in Europe was the breaking up of the Ghetto in the latter half of the 18th century. As long as the Jew was excluded from the world, its culture and its opportunities, he found his greatest comfort in his Hebrew studies and in his religion. The latter developed only along its own narrow lines and was protected from every admixture of foreign elements. The Jew, as it were, built a "fence around the law." When the bars of the Ghetto fell and the Jew was initiated into a new world of thought, language, literature and activity, he found the old religion incongruous with modern life and the rabbinical law too rigid for the new conditions. Reconciliation between the two was difficult. A bitter struggle ensued between the old religion and the new life. A compromise was the only solution. Judaism was equal to the demand. Heartburnings, personalities, domestic schism, often followed in the wake of innovations. The wheels of progress, however, could not be stayed.

Moses Mendelssohn translated parts of the Bible into German and thus opened up a new field of study for the Jew. This was followed by a translation of the prayerbook into German by David Friedlander. The Talmudic regulations were either openly violated or interpreted in a liberal spirit. Religious schools for instructing the younger generation in the principles and practices of Judaism as well as in the literature and history of Israel were instituted and conducted according to modern pedagogical methods. Religious services in many synagogues were modified, rituals were shortened, objectionable features were omitted, and prayers, sermons and hymns in the vernacular were introduced. Israel Jacobson was the first who successfully established reformed religious schools and services in Germany and later built a Reform temple at Seesen, which was consecrated 17 July 1810. This Reform movement soon spread to Berlin and Hamburg and before long it reached America and found expression here in 1824 in the city of Charleston in the organization of the "Reform Society" of Israelites, which instituted divine services that consisted of a short ritual with sermons, etc., in English and the abolition of offerings during the divine service. A great ecclesiastical battle resulted and many questions of Reform were delayed for several years. An organ was purchased and the system of family pews adopted in spite of much opposition. It may here be mentioned to the everlasting credit of Reform Judaism, that it instituted family pews and gave to woman the right to worship in the same pew with her husband and sons. The practice of the orthodox wing, which still prevails in many congregations, of isolating women in a screened gallery, is both improper and without warrant in this age of enlightenment. Reform differs further from Orthodoxy in the interpretations put upon the Scriptures and the Talmud and the authority with which they are severally credited. Orthodoxy gives to both Scripture and Talmud a binding authority over Jews without regard to circumstances of time and place. Reform seeks to set up a higher standard of authority than merely the literal texts and to find a way of reconciling ancient laws and traditions, if possible, with modern requirements. The usual custom of Reformers is to be reasonable and to discriminate between the essentials and the non-essentials of Judaism. Reform Judaism has discarded belief in bodily resurrection, in the coming of a personal Messiah, in the national restoration of Palestine and the reinstitution of the ancient temple with its Levitical cults. Reform Judaism is also manifested in a refusal to abide by the rigorous enforcement of the Mosaic and Rabbinical dietary laws and in certain changes in the ritual and religious observances. The Reform instituted at Charleston soon spread to the North where in the city of New York the Temple Emanu-El was organized in 1845 under the leadership of Rev. Dr. Leo Merzbacher who formed his own ritual for the congregation. Temple Emanu-El has led the van of the Reform Jewish congregations of America for over half a century and has given much impetus to the progress of Israel. Under Dr, Samuel Adler and Dr. Gustav Gottheil this congregation made vast strides and is now the largest and wealthiest Jewish congregation of the world. Its place of worship is situated at the corner of Fifth avenue and 43d street, and its present rabbis are the Rev. Drs. Joseph Silverman and Hyman G. Enelow. Har Sinai congregation was soon organized in Baltimore under the banner of Reform and adopted the prayerbook of the Hamburg Temple. Some of its noted rabbis were Dr. David Einhorn, Dr. Samuel Sale, Dr. D. Philipson and Dr. F. Shanfarber. The present incumbent is Rabbi Charles Rubenstein. A stronger note than all these, however, was sounded in the early days of reform at Albany where Rev. Dr. I. M. Wise officiated from 1846 to 1854. He had come from Germany, impregnated with the new spirit of progress, and at once carried his cherished ideals into practice in this country. He fought some of the early battles of Reform in America which went far beyond the expectations or desires of the Reformers of Europe. He contended for choir and organ and for a prayerbook in the vernacular and his *Minhag America* (the American ritual) was acceptable to most American Reform congregations for almost 50 years. It later became the basis of the Union Prayerbook now generally in use. Wise was not alone in his strenuous battles for progress. Leo Merzbacher, Max Libienthal, Samuel Adler, David Einhorn and Samuel

Hirsch ably entered the lists and contributed valuable aid to the new movement. These men were later reinforced by such valiant Reform leaders as B. Felsenthal, J. K. Gutheim and Gustav Gottheil. Rev. Dr. Isaac M. Wise, rightly called the father of American Reform Judaism, gave to this movement a greater impetus than it had ever received, when in 1873 he organized the Union of American Hebrew Congregations and under its auspices, in 1875, the Hebrew Union College, a theological seminary for the training of American rabbis. A great drawback to the progress of the reform element was the lack of leaders and rabbis with modern scholastic education who could enter into the spirit of American conditions and the needs of Israel in this country. In the last 35 years over 200 graduates of this college have found pulpits in reform congregations where, with their modern culture and the ability to appeal to the younger generation, they have had eminent success, and have given Reform (or Progressive Judaism, as it is sometimes called) a firm foothold on American soil. The Union of American Hebrew Congregations is now actively engaged in providing circuit preachers for small congregations and in organizing congregations and religious schools in communities where none exist. Another source of active strength to Reform Judaism has been the Central Conference of American Rabbis, which the late Rev. Dr. I. M. Wise called into existence in Detroit in July 1889. This had been preceded by several Reform Rabbinical Conferences which from time to time discussed burning ecclesiastical and ritual questions. The most noted of the conferences was the Pittsburgh Conference held in November 1885, at which the following platform of Reform Judaism was adopted and which in the main has been approved by nearly all Reform rabbis and teachers and been generally accepted by the laity:

Act 1.— Judaism conveys the highest conception of God and of his relation to Man. God is the Creator and Ruler of the world, Father and Educator of the human race.

Act 2.— The Holy Scriptures are the record of Divine Revelation and of the consecration of the Jewish people as the missionaries of the one God. In composition and literary arrangement the Scriptures are only the work of men with the unavoidable limitations of their age.

Act 3.— The results of natural science are the best helps to the understanding of the working of Divine Love in the world, the Bible serving as guides to illustrate the working of Divine Power within us.

Act 4.— The Mosaic laws are intended for the training of the Jews of Palestine in their former surroundings; only the moral laws are divine; all social, political and priestly statutes, inconsistent with our modern habits and views, are to be rejected.

Act 5.— The Mosaic-Rabbinical laws on diet, purity and dress fail to imbue modern Jews with the spirit of priestly holiness; their observance to-day would obstruct rather than enhance moral and spiritual elevation.

Act 6.— Israel's Messianic hope relates to the establishment of the authority of peace, truth, justice and love among men. No return to Palestine is expected, nor the reinstitution there of a Jewish state, nor of a worship conducted by descendants of Aaron.

Act 7.— Judaism is an ever-growing, progressive and rational religion of modern civilization and asserts the necessity of preserving identity with the great past of the Jewish nation.

Act 8.— Judaism hails the efforts made by various religious denominations toward removing the barriers separating sect from sect.

Act 9.— It is the duty of Jews to spread the knowledge of their religious truths and mission amongst Jews and non-Jews.

Act 10.— The present agitated state of Judaism is a period of transition from a blind belief in authority and exclusion to a rational and humanitarian conception of religion; the masses, therefore, should be enlightened as to the history and mission of the Jewish people and their social and spiritual condition elevated through press, pulpit and school.

The Central Conference of American Rabbis has, under the régime of its founder and first president, Dr. I. M. Wise (1889–98), and its second president, Dr. Joseph Silverman (1899–1903), formulated many decisions which have been put into practice by the people at large, the most important of which are the abrogation of circumcision for adult proselytes, permission to the rabbis to officiate at cremations, the interdiction of rabbis from officiating at intermarriages (between Jews and non-Jews), etc. The most important work of the conference has been the publication of the Union Prayer Book and Union Hymnal, both of which have become very popular and have been the means of bringing unity into the religious services of more than 200 Reform congregations and abolishing the many different rituals which had been a source of confusion in modern Judaism. Of late years some Reform congregations have been holding Sunday services in addition to the regular Sabbath services and many people have had grave fears lest this movement might lead to the substitution of Sunday for the Jewish Sabbath. The Central Conference of American Rabbis at its convention at Detroit July 1903 allayed those fears by adopting a resolution to the effect that this Conference favors adherence to the historical Sabbath as the fundamental institution of Judaism, and that Sunday services, whenever held, must only be regarded as supplementary to the regular Sabbath services. The future of Reform Judaism in this country is pregnant with great possibilities. It is to be shaped, in the main, by the Union of American Hebrew Congregations, the Central Conference of American Rabbis and the Hebrew Union College (Cincinnati, Ohio) presided over by Dr. K. Kohler, the successor of Dr. I. M. Wise, and by the graduates of this college of whom the older and more prominent are H. Berkowitz, Jos. Krauskopf, Louis Grossman, R. Grossman, M. Heller, David Philipson, Jos. Stolz, Jos. Silverman, Wm. Rosenau. Among other leading Reform rabbis of America may be counted E. G. Hirsch, K. Kohler, S. Sale, Leon Harrison, I. S. Moses, Abram Simon, S. Schulman, M. H. Harris, S. S. Wise and R. Grossman. It is hoped that the Jewish Theological Seminary of America (New York), will also add power and influence to progressive Judaism in

America, notwithstanding its present conservative tendency. The main problem for the reformers of the future will be how to promote assimilation with modern conditions without sacrificing the integrity of Judaism.

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JOSEPH SILVERMAN,
Rabbi, Temple Emanu-El, New York City.

17. EDUCATION AND THE JEWS. The rise of education among the Jews during the period before the Babylonian exile is, like all the beginnings of national and intellectual life in antiquity, enveloped in obscurity. But enough can be learned from many casual allusions in Biblical literature to prove that even during that early era education had attained a high standard, and had become a solid foundation upon which generations could continue to build. So much is certain, that education began at a very tender age, from the moment when the intelligence of the child first awakened. Then the impressions had to begin to produce what was regarded the end and aim of all education, namely, to make a perfect man.

Among the Jews the virtuous man was one who realized his likeness to God in whose image he was created. This ideal was taught by the Hebrew prophets, and formed the basis of their education, which religion commanded should be given to all alike. Every duty to the individual and the community was a religious duty; therefore there was a perfect union of religion and life, and education had as its end systematically to form and elevate humanity. Of the highest truth and duties it was commanded "Thou shalt teach them unto thy children, and shalt talk of them when thou sittest in thy house, and when thou walkest by the way, and when thou liest down, and when thou risest up." (Deut. vi, 7). "This instruction educated the whole people to the consciousness, that conduct is the largest concern of life, so that righteousness became Irael's ideal." (Matthew Arnold).

The survival of the Jews after the twice repeated destruction of their national life, their salvation from disappearance under 18 centuries of systematic persecution and their constant high standard of intellectual and moral attainments is due to the high value they placed upon education and the manner in which it has been adapted by them to every age and time, so that no progress, caused by the advance of science, found opposition among them for any length of time. Therefore a modern educator has said truly, "If ever a people had demonstrated the value of education, it is the Jews."

In Biblical Times.— During the earliest period the instruction was domestic — the home was the only school, the parents were the only teachers. (Deut. iv, 9; vi, 7; xi, 19). Ceremonies were introduced in the house for the purpose of impressing upon the plastic minds of the children the glorious achievements of the fathers and government of the world by God. (Ex. xiii, 8). Abraham's merit was found in the assurance that he would give his children such training. (Gen. xviii, 19). There are many evidences that the arts of reading and writing became more and more widely diffused. The well-educated child is the joy of his parents. (Prov. x, 1; xvii, 25). But religion and virtue remained the foundation of all education. "The fear of the Lord is the beginning of wisdom." (Prov. i, 7). The main object of the Sabbath assemblages was instruction; everyone was made thoroughly acquainted with the national literature. (Deut. xxxi, 12–13). So the Jews were trained to become "the people of the book."

In the Rabbinical Era.— During the period of the second temple systematic instruction and schooling were introduced. First the high school (Beth ha-Midrash) in connection with every synagogue (first mentioned Eccles. li, 23). The New Testament refers to these schools many times. Luke v, 17 speaks of teachers from every town in Galilee and Judea which proves how numerous they were. It seemed indeed so unthinkable that such schools had not existed from primæval times, that the later Haggadah anticipates the Beth ha-Midrash for the time of Moses, Joshua and Samuel, that it reported Solomon built schoolhouses and Hezekiah supported them. Primary education was made compulsory by Simon ben Shetah about 75 B.C., and the High Priest Joshua ben Gamla, 63–65 A.D., enacted that teachers be appointed in every province and town for children from the ages of six to seven years up. It was then that the elementary school (Beth ha-Sefer) was established, and together with the high school connected with every synagogue. (Talm. Babl. Ber. 17, a, Ta'anit 23, b, Kidd. 30, a, Yalkut Is. 257). At the time of Josephus the duty of universal education for every child was regarded as so important that he says (Ap. I, 12) "Moses commanded us to instruct the children in the elements of knowledge, reading, writing and the deeds of the forefathers." He could state with pride (Ap. II, 25) "Amongst us every child must learn to read." In addition to reading, writing and the history of the past it was the duty of every father to have his son taught the art of swimming and to give him manual training by letting him learn a trade.

In the midst of the convulsions caused by the destruction of Jerusalem and the Temple R. Jochanan ben Sakkai obtained from Vespasian the permission to establish an academy at Jamnia which at once became the centre of Jewish learning, the mother of the succeeding high schools where the discussions were held whose records are preserved in the Talmud, (see TALMUD) which is filled with evidences of wise pedagogic insight in the arrangement of schools and courses of studies and anticipates many of the new movements in education which mark the present time. Especially is the high importance of the teacher and the respect due to him expressed in the most emphatic manner. "A President of the Academy," relates the Talmud, "sent some scholars to ex-

amine the schools and establish them where none existed. They came to a city and demanded to see the keepers of the city. The magistrates and police officials were introduced to them. 'These are not the city's keepers!' said the wise men, 'Who then are?' asked the citizens. 'The city's keepers are the teachers of the children,' was the reply." "A city without elementary schools deserves to be destroyed," is another saying. Nothing was permitted to interfere with the school lessons, not even the rebuilding of the Temple. Rabbi Jehudah said "The world is saved only by the breath of the school children." The subjects of instruction were in the first place the religious literature, the Bible and the Talmud. But the studies were so arranged that by the nature of the talmudic discussions they embraced all known sciences: natural history, anatomy, medicine, geometry, astronomy and foreign languages.

In Later Times.— The succeeding ages were dominated by the wise rules laid down in the Talmud referring to discipline, qualifications of the teachers, the respect due to the teachers, rules about limiting the size of the classes taught by one teacher and the attention paid to the individuality of the pupils. The great regard paid to the school by the Jews in the Middle Ages, when among Christians education was limited to the small number of the favored classes, is apparent from a detailed scheme preserved from the 12th century for the course of instruction followed in the schools. The order of studies is carefully elaborated from the elementary schools for all children through the secondary schools up to the academies. In the 13th century the "seven sciences" comprised the prescribed curriculum among the Jews as it did among the Christians. Especially in Italy systematic education received great care and encouragement at that time, and the same is true of Spain and Provence. Great rabbis stimulated interest in science outside of religious lore; Hebrew books of ethics of the period contain side by side with the moral teachings of the rabbis maxims from Aristotle, Porphyry, Theophrastus and others. The Jewish educational curriculum in Italy included the whole field of knowledge, theology, poetry, philosophy and natural science long before the Renaissance.

In Spain the ordinary course of Jewish study was Bible, Hebrew poetry, Talmud, the relation of philosophy and revelation, the logic of Aristotle, the elements of Euclid, arithmetic, the mathematical works of Nicomachus, Theodosius, Menelaus, Archimedes and others, optics, music, mechanics, medicine, natural science and metaphysics. So it happened that during the darkest mediæval times Jews were conspicuous as scholars, philosophers and physicians; to them, in fact, is owing the scientific elaboration and advancement of medicine; they took the most active part in the progress of astronomy, founded the famous schools of Montpelier and Salerno and contributed essentially to the flourishing condition of Padua. Without Jewish inventions neither Columbus nor Vasco de Gama could have made their daring sea voyages. Moritz Steinschneider in his great work 'The Hebrew translations of the middle ages, and the Jews as interpreters' has shown the inestimable services rendered by them in being the mediators of Greek and Mohammedan civilization for the nations of the Occident. All of this high education and respect for scholarship was based upon the broad foundation of the elementary school which existed in every and even the smallest Jewish congregation.

Child Training.— Although little attention was paid to the education of the girls, nevertheless many of them became distinguished by scholarship, and all were imbued with the highest appreciation of learning. The mothers took their little sons to school and both the mother and father participated in the important function of introducing the boy to school for the first time. This was made a solemn religious ceremony, so arranged as to leave an indelible impression upon the tender mind of the child. The initiation took place in the synagogue on the Feast of Pentecost, the traditional anniversary of the revelation on Mount Sinai. Early in the morning the boy was dressed in new clothes and three cakes of fine flour and honey were baked for him by a young maiden. Three eggs were boiled and apples and other fruit were gathered in profusion. Then the child was taken in the arms of the rabbi or another learned friend first to the school and then to the synagogue or vice-versa. The child was placed on the reading dais before the scroll, from which the Ten Commandments were read as the lesson of the day. In the school he then received the first lesson in reading Hebrew. On a slate were traced in honey some of the letters of the alphabet, or simple texts, such as "Moses commanded us a law, an inheritance for the congregation of Jacob" (Deut. xxxiii, 4); the first verse of Leviticus and "Let instruction be my vocation." The child was then handed over to the arms of his mother who had stood by during this delightful scene. (Abraham's 'Jewish Life in the Middle Ages,' p. 348, from Machzor Vitry, p. 628).

Rabbis as Educators.— The influence of Jewish education became very conspicuous when at the time of the Renaissance the revival of learning took place. Then the Jews were the only ones through whom the Hebrew Bible could be rediscovered for the Christian world. As once Origen and Jerome, so now the religious Reformers learned to read and interpret the Hebrew Scriptures from the Jews, and Luther in his commentaries is altogether dependent on Nicholas de Lyra, who in his turn had appropriated the commentary of Rashi (Rabbi Solomon ben Isaac of Troyes 1040–1105), which was familiar to every Jewish child. So the Italian Jews especially became the teachers of nearly all Hebraists among the Humanists. Wherever the Jews found a refuge during the persecutions in Germany, and when expelled from England and France, Spain, Portugal and Sicily, they carried their educational ideals with them and it was their first concern to establish elementary schools and schools for higher education. Especially praised by contemporaries on account of its excellent systematic arrangement was the school at Amsterdam, where Spinoza received his primary education.

In Modern Times.— Less systematic were the educational establishments in Germany and Austria in consequence of the centuries of oppression to which the Jews were subjected and

their total deprivation of all civil rights in those countries. But even there they did the best possible under their arduous condition, and at no time were men distinguished by scholarship lacking among them. The system was finally improved in Germany by the influence of Moses Mendelssohn and his followers, and in Austria through the initiative of Hartwig Wessely who stirred up the Jews to improve their schools in accordance with the suggestions of the Emperor Joseph II. So at the end of the 18th and the beginning of the 19th centuries a number of Jewish schools were founded on the old Jewish principles combined with the most modern pedagogic developments. The Jewish Free School was founded in Berlin in 1778, the Wilhelm School of Breslau in 1791, the Franz School of Dessau in 1799, the Jacobson School at Seesen in the Harz in 1801, the Philanthropin at Frankfort-on-the-Main in 1804, the Samson School at Wolfenbüttel in 1807. At the latter school Leopold Zunz received his education and imbibed that love of learning which made him the founder of the scientific treatment of Jewish religion, literature and history. These schools were so excellent that most of them were patronized by Christians also. They set an example for schools with similar ambitions in every Jewish congregation in western Europe. Immediately the necessity was felt for competent teachers at such schools and for rabbis systematically trained and endowed with general education. The first teachers' seminary was founded at Cassel in 1809. Others followed in rapid succession. For the education of rabbis many institutions sprang up which have won deserved distinction in France, Germany, Italy, Austria, England and America.

The New Education.— Guided by the conviction that education would be the best means of improving the wretched condition of the Jews in Rumania and Turkey, the Alliance Israélite Univerélle (see article ALLIANCE ISRAÉLITE UNIVERELLE) has opened in those countries many schools for the teaching of elementary branches, languages and manual training, their high standard being so well recognized that in Turkey they are largely patronized by Mohammedans and Christians also. Trade schools and schools for technical training have been founded by Jews. Those established in America for the benefit of Jewish immigrants and their children, in New York city the Educational Alliance by the Baron Hirsch Fund and in Chicago the Jewish Manual Training School deserve special mention on account of the magnificent work they are doing.

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MAX LANDSBERG,
Rabbi, Temple Berith Kodesh, Rochester, N. Y.

18. COMMERCE AND THE JEWS. Commerce or the exchange of goods is and has at all times been one of the prime motors of civilization. In antiquity the Phœnicians were the great trading nation, and together with the various products they carried from one land to another they spread the elements of culture into remote parts of the earth. Thus they furnished the Greeks with the very elements out of which their industry, art and literature afterward developed until they themselves became heirs to the Phœnician trade. Less known and recognized is the fact that during the early Middle Ages the Jews, owing to their dispersion over the globe and their connection with one another, were the merchant people par excellence, filling the position of the Canaanite of old as intermediaries of the world's trade.

Early Traders.— On the soil of Palestine the Hebrews were gradually transformed from a people of shepherds into farmers. Trading was greatly discouraged by legislation which prohibited loaning money on interest and the merchant's honesty was distrusted alike by prophet and by sage (Hosea xii, 7; Ecclesiasticus xxvi, 29–xxvii, 2; Kiddushin iv, 14). The great caravan routes from Arabia and Egypt to Tyre and Damascus did not touch the highlands of Judæa and Samaria; it was the Canaanite or Phœnician who «walked around» from town to town and from house to house with his merchandise (Isaiah xxiii, 8; Hosea xii, 8; Ezek. xvii, 4; Zech. xiv, 21; Prov. xxxi, 24). Once or twice the attempt was made to join the Phœnicians in maritime expeditions but without success (I Kings x, 15–22; xxii, 48). In the Babylonian exile the Jew imbibed an unquenchable love for the wide world; his eyes were opened to the facilities of commerce as he watched the markets of Babylonia and of Tyre (Ezek. xxvii; Genesis x; Tobit i, 13). Travel on land or on sea for the pursuit of commerce became a matter of frequent occurrence also among Palestinian Jews under the Persian dominion (Prov. vii, 19–20; Ps. cvii, 23; Tobit i, 13, 21; iii, 7; Jonah i, 3), although the markets of Jerusalem were chiefly occupied by Phœnician traders at the time of Ezra (Nehem. iii, 31; xiii, 16). Josephus also writes rather in a spirit of contempt for trade: «We neither inhabit a maritime country nor do we delight in commercial occupation, but take pains in cultivating the fertile land we inhabit.» (Contra Apionem i, 12).

Hellenic Jews.— It was chiefly since the time of Alexander the Great and under the Ptolemies and Seleucides that the Jews settled in large numbers in the great centres of commerce all along the Mediterranean and engaged in mercantile pursuits acquiring wealth and influence to such a degree as to rouse the jealousy of their Greek competitors. This was especially the case in Alexandria where they inhabited a large portion of land along the sea and became owners of ships and great merchant princes controlling the navigation of the Nile. (Philo In Flaccum 8; III Maca. iii, 10; Josephus Contra Apionem ii, 5; Comp. Frankel Monatschrift, 1874, p. 147, and Theodore Reincharl, «Judæi» in 'Dictionnaire des Antiquités Gothques et Romaines'). There was scarcely a commercial town throughout the whole Roman Empire from Asia Minor to Spain in which they had not a colony of their own, enjoying the protection of the Roman rulers because of their success (Josephus, Ant. xiv, 7, 2–3; Jewish War ii, 16, 4). They were Jews in race and faith, but Hellenes in culture; commerce broad-

ened their views and rendered them cosmopolitan. Jewish merchants carried Jewish ideas wherever they went; they paved the way for a world-conquering faith. They ploughed the soil for Saint Paul and Christianity to reap the great harvest.

Judæa also came under the influence of the commercial spirit of the Hellenic Jew. The large list of goods mentioned in the Mishnah gives evidence of the extensive international trade carried on by the Jews which flooded the mother-country with merchandise imported from all parts of the globe and which enriched the Jewish vocabulary with a great variety of Greek terms (Herzfeld, 'Handelsgeschichte der Juden des Alterthums,' 1879; Schuerer, 'Gesch. d. juedischen Volkes' II², 50–63). The ships sculptured upon the Maccabean mausoleum point to the possession of a mercantile fleet by the Jews stationed at Joppa, the port at which Simon the Maccabean prince endeavored to develop the foreign trade (I Macc. xiii, 29; xiv, 5), whereas King Herod desired to make Cæsarea a more convenient harbor (Josephus, Ant. xv, 9, 6). As a typical man of wealth of this time a high priest by the name of Eleazar ben Harsom is mentioned in the Talmud who is said to have inherited from his father a thousand towns on land and a thousand ships on sea (Yoma 35ᵇ). But the best proof of the gradual transformation of the Jews from an agricultural to a commercial people at the time of Herod is given by the fact that Hillel, the great master of the rabbinical schools, felt induced to institute a legal mode of procedure in regard to loans of money which virtually did away with the Mosaic prohibition (Gittin v, 5). It shows that investment of capital in commercial speculation had become a necessity with the people.

The Jews in the Dispersion.— The fall of Judæa in the year 70 and the final defeat at the Bar Kokba War in 135 changed the destiny of the Jews altogether, and they bent their efforts to a far larger extent than before upon mercantile pursuits. Scattered over the wide globe, they were enabled through extensive travel and good connections to establish flourishing trade everywhere. Especially in Babylonia under the dominion of the Parthians they amassed great fortunes by commerce, enjoying the favor of wise rulers. (Consult Herzfeld 1, c. 118–119; 336). Along the Phœnician sea-coast they became heirs to the Phœnician trade and industry to such an extent that far into the Middle Ages they are found to be the chief manfacturers of Tyrian glass and of purple, as shown by Benjamin of Tudela's Travels. Ere Christianity spread its arms westward, they marched as peddlers under the shadow of the Roman eagle up the Ebro as far as Toledo and Saragossa, up the Rhine as far as Cologne and along the Danube as far as the Black Sea, carrying on an importing trade in spices and perfumes, in pearls and jewels and in costly clothes of the East. Particularly was the silk-trade greatly developed, if not altogether monopolized by them, and this accounts for ancient Jewish settlements in China, the home of silk and for the protection accorded to Jewish silk manufacturers by rulers of Sicily, France and Spain. (Consult Heyd, 'Gesch. des Levanthandels,' i, 6–9, 12; 24; 26; Mommsen, 'Roemische Gesch.,' v, 465–470; Herzfeld, 119; 308; Graetz, 'Gesch. d. Juden,' v³, 55, 228, 329 and elsewhere). The same seems to have been the case with the trade in spices (Heyd, l. c. 12, 141; Depping, 'Die Juden in Mittelalter,' p. 132; Bedarride, 'Les Juifs de France,' 46; 454). It is significant that the Jews were assessed to pay their taxes in the shape of pepper (Depping, l. c. 132). The existence of black Jews in Malabar indicates the establishment of Jewish colonies in India for commercial purposes. Throughout the early Christian centuries Jews are mentioned as importing silk, spices and embroidered goods from the East to the markets of Spain and France. The flourishing period of Jewish trade came when the victorious flag of Mohammed united the East and the West into one great empire offering new incentives to industry and commerce. Jews were employed by the Moslem rulers as commissaries of the army and as financiers. Jewish merchants, partly on their own ships, made regular trips from far off China, India and Egypt to Marseilles and Narbonne, bringing the produce of the East to the Western depots of commerce. They carried the fur and amber of Russia, brought to the Crimea or to Bohemia the shawls and embroideries of Constantinople, the spices of India and drugs of Arabia to the markets of Narbonne, Lyons, Cologne and Mayence (Bedarride, l. c. 57 and elsewhere). Descriptions of the mercantile routes taken by such Jewish traders have been preserved by Arabic geographers, showing the important position taken by them as international mediators between the Orient and the Occident. Jews were indeed in those centuries the merchants (mercatores or negotiatores) par excellence. This accounts for the fact that Jews were selected as ambassadors by German emperors like Charlemagne and Otto I and made secretaries of finance and prime ministers by the Moslem rulers. Conversant with the languages of many countries, they had the opportunity of controlling the market and accumulating great wealth as no other class of people (Sombart, W., 'The Jews and Modern Capitalism,' London 1913; and collation of Jewish reviews in Am. Econ. Report for 1913; Heyd, l. c. 138–142; 87; 194; 258; Jacob, 'Handelsartikel der Araber,' 1891, p. 9; Stobbe, 'Die Juden in Deutschland,' 6–7; 103; 199–200; 231; Kremer, 'Die Kulturgeschichte des Orients,' I, 188; II, 176; Lee's 'Spanish Inquisition'; Kohler, K., 'Die Weltgeschichtliche Bedeutung des jüdische Handels,' in 'Jahrbuch für jüdische Geschichte und Literatur, 1909, pp. 90–107).

As Addison says in the *Spectator*, they were so disseminated through all the trading parts of the world that they became the instrument through which the most distant nations conversed with one another and by which mankind were knit together in a general correspondence.

The trade in slaves was almost exclusively in their hands a long time. (Consult Heyd and Stobbe l. c.). Some they brought from Gaul, but to a larger extent they bought slaves from the Slavonic rulers (Benjamin of Tudela, p. 111ᵇ; and Graetz, Gesch. V, 303). With the Chazar kings in the Crimea they also stood in close relationship, as is proved by the fact that the latter embraced the faith of the Jews

(Graetz, l. c. 176 et seq.; Beer, 'Gesch. des Welthandels,' 198, 229–230). The entire trade with the products of the Baltic provinces seems to have been in their hands since the time of the Roman Empire (Schuerer, l. c., III, 18). Besides woolen and silken goods, spices, tapestry, embroideries and furs, we find jewelry, gold and precious stones also monopolized by them. Nor was the commercial activity of the Jews merely confined to the exchange of goods. They reared those centres of commerce in western Europe which were afterward occupied by the rich burghers or merchant guilds who drove them out of their possessions in order to rid themselves of their competitors or masters in the art of trading. The beginnings of the history of cities such as Narbonne and Lyons, Cologne and Mayence, Nuremberg, Regensburg, Ulm and Augsburg, London and York and dozens, if not hundreds of others, coincide as a rule with Jewish settlements in these places, one far-sighted Jew being the pioneer of commerce whose success attracted other Jewish traders, to render the market there a centre of commerce, until, finally, the growing wealth of the Jews rouses the jealousy of the Christian people and becomes the cause of their oppression and expulsion. As Sombart (*supra*), Kieselbach, 'Der Gang des Welthandels,' and Roscher, 'Die Juden im Mittelalter,' in his 'Ansichten der Volkswirthschaft,' II, have shown, the Jews opened new sources of wealth everywhere by creating the means and methods of communication for the trade, for which neither the peasant or farmer nor the nobleman had the capability or the understanding. Only wise rulers, realizing the benefits conferred by the Jewish traders upon the country, encouraged these by special privileges to settle therein and develop its resources. This was done by Charlemagne and his successors in France and in Germany, by Alfred the Great and William the Conqueror and Cromwell in England, by King Roger of Sicily, Kasimir the Great in Poland and Sultan Bajazid in Turkey. Everywhere the commercial genius of the Jewish people developed the prosperity of the cities. (Consult also Lecky, 'History of the Rise of the Spirit of Rationalism in Europe,' II, 272–273). "They were the teachers and tutors of the commercial activity of Europe," says Roscher, l. c., and no sooner did the cities feel that they could do without them than they dispossessed them of all they had acquired, though half of the houses of Paris, London or Nuremberg had been theirs, and either killed or expelled them. But even when driven by a bloodthirsty mob or by hostile guilds and by state legislation out of his original domain, the world-commerce, the Jew carried his small stock of merchandise into the villages to bring, as Kieselbach says, the elements of culture also into parts more remote from civilization, or he took up the despised work of the money lender, finally to rise to the influential position of banker and prince of finance. The whole system of modern exchange of money is, if not his invention, certainly to a large extent his work. To his financiering skill and international trade the banks of Amsterdam, Hamburg and finally of England owe their existence and their success.

Results of Their Activity.— What Jewish commerce achieved in all these lands became manifest in France after their expulsion in 1306, and in England after their expulsion in 1290, and still more so in Spain after 1492. Jewish fugitives of Spain carried the trade into Turkey and Holland and into Italian cities like Leghorn and Ancona, just as Poland's commercial industry was entirely due to fugitive Jews of Germany. (Consult Sombart, *supra;* Graetz, 'Gesch. d. Juden' index, and 'Jewish Encyclopedia,' s. v.). So did the New World profit by the persecutions of the Jew in the Old. Jewish Marranos built up the trade in tobacco, coffee and sugar in South America, and with the help of the Jews of Amsterdam for some time brought the world's commerce into the hands of Holland until Cromwell succeeded in opening England for the Jews and thus paved the way for the British trade with the West Indies. (Consult Beer, 'Gesch. d. Welthandels,' II, 211, 366; Kohler, Max, 'Jewish Activity in American Colonial Commerce,' in 'Publications of the American Jewish Historical Society,' X, 47–63). The trade between America, Europe and the Levant was almost entirely in the hands of Spanish Jews or Marranos; families like the Gradis, Caceres, Mendez, Lopez and Henriques had their branches and their ships in almost every part of the world. (Consult Wolf, Lucien, 'Menasseh ben Israel'; Gruenwald, 'Portugiesengraeber auf deutscher Erde'). Jews were instrumental in starting the East India Companies (Picciotto, 'Sketches of Anglo-Jewish History,' 134). They were largely pioneers of commerce in North America. Jewish merchants (Marranos) enabled Columbus and other navigators to discover the new hemisphere and provided the new lands with grain, horses and other needs (Kayserling, 'Christopher Columbus' and the article THE JEW IN AMERICA in this section). They possessed large tobacco, sugar and coffee plantations in Cuba, Brazil, Surinam, Curaçoa, and kept up commercial connections through navigation, partly by means of their own ships, with North America, Amsterdam, Leghorn in Italy, and the Far East (Gruenwald, l. c.) and were extensively engaged in the West Indian trade, in trade with the American Indians and in developing the country west of the Ohio.

When with the era of the Reformation the systematic oppression of the Jews somewhat relaxed and they were again allowed to pursue more honorable and profitable occupations, we find them for a century or two, up to the time of the better regulated traffic by steam railroads, the chief visitors of the annual or semi-annual fairs held at Leipzig, Frankfort on the Oder, Prague, Wilna, Novgorod and other great market places, whither they bring their clothes, silk and velvet, fur, leather and other goods, for sale. On these occasions Jewish merchants from the remote parts of the continent met, exchanging the products of the various lands and providing their specific districts with goods for home consumption. In some provinces of Europe, Jews became the principal dealers in cattle and the chief attendants of the cattle markets; elsewhere, as in Russia, they deal chiefly in grain and lumber.

The new modes of industry finally transformed the former peddlers in old clothes and the like into manufacturers of woolen, silk and leather goods. The first silk and velvet factories in Prussia and the woolen factories in

Austria were introduced there by Jews. Henceforth Jews monopolize this trade again in a large part of the world. Compare for the whole also the article "Commerce" in the 'Jewish Encyclopedia,' and article "Juifs" in 'La Grande Encyclopaedie'.

Owing to his constant expulsion from the land inhabited and cultivated by him, whether in Palestine or in Babylonia, in Africa or in southern Europe, the commercial instinct was developed in the Jew, thus making him excel his competitors. As a skilful and far-sighted merchant he not only acquired the wealth and power needed to maintain himself amidst the perils surrounding him wherever he was treated and regarded as an alien, but he proved the most valuable promoter of civilization in the lands in which he lived, the foremost liberalizing element in the shaping and broadening of human culture.

KAUFMANN KOHLER,
President of Hebrew Union College, Cincinnati, Ohio.

19. FOOD AND HEALTH LAWS.

Food Laws.— The food laws of the Jewish people form a very complex system, with numerous and diversified enactments. These refer to the determination of the species of animals, birds, fish and insects that may be eaten; the method of slaughter; the inspection of the animal for disease and lesion; the prohibition of the blood, fat and certain parts of the animal; the treatment of meat prior to cooking; the prohibition of certain food mixtures; certain vegetable food laws, such as the prohibition of leaven during Passover, first fruit crops — Orlah, and the new corn — Hadash; and various anti-heathen food laws, affecting the use of wine, etc. It is certainly very suggestive of the importance of food legislation that the first direct command of God to Adam should be a food law (Gen. ii, 17), and that the punishment for its trangression should be the advent of death. The exposition of the dietary laws has given rise to a vast literature to which every century and almost every school of thought has made its contribution, but the general result is chaos. This is due mainly to three causes: (1) The essentially monistic nature of the Jewish thought has been quite overlooked. Conceptions that appear almost antithetic for the modern mind were apprehended as an undifferentiated whole by the ancient Hebrew. His language had no word that would be equivalent to "nature"; the physical and the psychical, the legal and the ethical, the spiritual and the vital, were all unified manifestations of the Theocratic Will. So that when the Bible declares with all emphasis that the end of the law is "life"—"that ye shall live by them"—"your life and the prolongation of your days," it is just as uncritical to exclude physical life from this end as it would be to exclude from it the life of the spirit and the life everlasting. (2) The second cause of the overwhelming confusion prevalent in this literature is the unscientific exaltation of every observed effect of the laws into a motive for their promulgation and observance . (3) The avowedly different character of many of these laws in origin and purpose has been largely disregarded. The exposition of the dietary system would have been much simplified and innumerable controversies avoided if it had been clearly understood that the statement of effects does not involve their predication as motives; that motives apparently diverse could yet remain unified and undifferentiated for the Jewish mind, and that there is no one explanation that will cover all the laws:

1. *Clean and Unclean Species.*—Among the quadrupeds only the ruminants that are provided with fully cloven hoofs are declared to be fit for food; and of these only the kine, sheep and goats are fit for sacrifice (Lev. xi, Deut. xiv). The rabbis refer to another distinguishing mark possessed by all clean animals, namely, the absence of incisors from the upper jaw (Talmud Bab., Hullin 59A). Among the fish, only those that have fins and scales are clean; thus all the siluridæ, eels and shell-fish are prohibited. As all that have scales have also fins, the presence of scales is the decisive mark (Talmud Bab., Niddah 51A). No marks are given in the Bible to determine the clean fowl, but a long list is recorded of species that are unclean. These are birds of prey, scavenger birds and marsh fowl. The bat is also included in the list. All the species not named are declared fit for food. The rabbis have formulated certain marks distinguishing the clean fowl — but finally only those birds that are traditionally known to be clean are permitted to be used for food (Talmud Bab., Hullin 63B). All insects are declared unclean, with exception of four species of locusts. All creeping things are unclean (Shulhan Aruch, Yore Deäh §§ 79–85).

The earliest explanation of this distinction between clean and unclean is afforded in the allegorical interpretations of the Apocrypha (IV Maccab. 5, Letter of Aristeas, etc.), the works of Philo and the Fathers of the Church (Augustine, Irenæus, Cyril, Tertullian, Novatian "On the Jewish Meats"). The unclean animals are all regarded as typifying vices,— the hare libidinousness, the swine impurity, the fox craft, etc. The cloven hoof, the first sign of purity, typifies the distinction between good and evil; the chewing of the cud symbolizes the constant repetition of the law. This method of interpretation, while certainly leading to curious results, has some justification in the Bible presentation of the Serpent as the agent of temptation (Gen. iii, 1) and also in the figures employed by Ezekiel (chap. xxiii, 20). Another explanation bases itself upon the natural and instinctive antipathy and loathing that destructive and death-dealing animals arouse. It is only natural that beasts of prey, serpentine and snake-like fish, slimy crustaceans, birds of prey, marsh fowl and scavenger birds, insects feeding on corruption and ordure, should be held unclean and polluting by a people striving to keep itself pure and holy (Lev. xi, 43). The consequences of this striving after holiness affect the whole of Jewish thought and life, and are of primal importance for the comprehension of the dietary system (Schechter, *Jewish Quart. Rev.* Vol. X, Art. "Holiness"). That death-dealing creatures were regarded as abhorrent and imperfect is proved definitely by the prophecy of Isaiah, who sees as one of the conditions of the Messianic period "that the wolf shall dwell with the lamb — and the lion shall eat straw like the ox — they shall not hurt or destroy in all my holy mountains," etc.

(Is. xi, 6–9, lxv, 25). There must further be noted the special shrinking evidenced in many ways from the hybrid and border species as departures from the true order of nature, which was that "all creatures should be after their kind" (Gen. i, 11, 21, 24). This would specially apply to the bat, the hybridous ostrich of the desert and the "winged quadrupedal creeping things" (Lev. xi, 23); the grass-eating locust would alone be excepted of all the insect tribe.

Others have seen in the distinction made between the clean and the unclean the means to separate Israel from the rest of the surrounding nations. "It was necessary for Israel to sever all intercourse with the desert tribes and in order to accomplish this the camel, for instance, was declared unclean. It was even more necessary to separate Israel from the corrupt and degenerate Canaanites, and so the swine was pronounced impure." (Ewald). The argument is entirely without warrant, as the kine, sheep and goats were all eaten by the neighboring nations, and yet are regarded as clean for Israel.

Many have striven to connect the food laws of Israel with those of Manu. It is true that the food laws of Manu, with regard to the clean and unclean, have a great many elements in common with the Jewish Code, but the differences are too great to permit of any direct connection. Both give expression to the natural repugnance for certain classes of animals, but the details do not agree. In Manu's laws the hare, rhinoceros, porcupine, hedgehog, are all permitted, but they are unclean in the Jewish Code. The prohibitions relating to the birds, too, are not the same. Manu prohibits birds dwelling in cities and those that strike with the beak. There are also differences with regard to the fish. Manu prohibits all but a few species, and declares the crocodile, turtle and tortoise clean, but these are unclean in the Jewish Code. The Jewish law stands even further removed from the Zend-Avesta, as it knows nothing of the dualism of the latter (Gen. i, 31; Is. xlv, 7; Ps. cxlviii, 10). The most recent interpretation is the one advanced by W. Robertson Smith and accepted by Stade and Cheyne. He regards the prohibitions as identical with the taboo that Totemism places upon the use for food of the sacred ancestral animals. But it is the essence of Totemism that while sacred animals are not to be eaten generally, they are to be eaten eucharistically, as a religious rite and further, these animals being regarded as ancestral, their names are reproduced in the names of tribes and individuals. With regard to the first point, there is absolutely no proof that the unclean creatures were ever eaten eucharistically in Israel. The two verses usually cited (Is. lxv, 4 and lxvi, 17), which condemn the consumption of swine are altogether too doubtful in meaning and too decidedly the subject of dispute (Duhm, Marti) to be in any way important. Still less fortunate is the attempt to prove the existence of Totemism from the occurrence of such names as Achbor and Chesir; for there is a larger number of clean animals whose names occur as names of individuals—Zimri (?) Hagab, Eglah, Epher, Rachel, Jonah, etc. (Jacobs, 'Stud. in Bib. Arch.'). If any further proof were needed that the bestowal of names has no connection with Totemism and is the result of accident or the suggestion of environment, it would be afforded by the large number of plants, excluded from consideration of clean and unclean, that furnish the names of individuals. Thus Susanna (Lily), Hadassah (Myrtle), Tamar (Palm), Carmi (Vineyard), Elah (Terebinth), Elon (Oak), Keziah (Cassia), Zetham (Olive). Totemism, moreover, would utterly fail to account for the extensiveness of the list of the unclean, and for the evident principles of selection guiding the compilation of the list. But the presence of Totemism altogether, characteristic as it is of the lowest stages of savage life, would be a startling anachronism in the highly complex and ethical civilization of the Hebrews (Nöldeke, 'Zeitsch. d. Deutsch. Morg. Gesell.,' 1886). The consideration of the dietary laws as hygienic enactments will come under the section in this article *Health Laws*.

Blood.— The prohibition of blood is avowedly different from the prohibition of the unclean creatures. Blood was too precious to be used by man. It was identified with the vital sentient principle. It was therefore to be consecrated to God. It is declared to be the medium of atonement representing the very life of the animal sacrificed (Lev. xvii, 11). The injunction concerning the blood is coeval with the very permission to use flesh as food (Gen. ix, 4). It is enunciated as a duty for all humanity, and the stranger was bound to respect the prohibition equally with the Israelite.

In the case of non-sacrificial animals or birds, the blood had to be poured on the ground and covered with earth (Lev. xvii, 10–15). The prohibition only applied to blood of mammals and birds, not to the blood of fish or locusts. It referred only to the free blood in the blood-vessels, and not to that absorbed in the tissues. The blood prohibition was one of the chief factors for the law of Shehitah or ritual slaughter. So great is the abhorrence of the Jews toward blood that bread is rendered unfit for use if in the process of eating it become tinged by a speck of blood from the teeth (T. B. Kethuboth 60A). The monstrous absurdity of the "Blood Accusation" has been adequately treated by Strack ('Das Blut in Glauben,' etc., Munich 1900) and Chwolson ('Blutanklage,' 1901). Early Christianity accepted the blood prohibition (Tertullian, Apolog.), and it remained in force for various Christian sects till comparatively recent times (Grotius on Acts xv, 20). For Moslems, the prohibition is still in force (Koran, Sura II, V, VI). For the hygienic consideration of the blood prohibition, see under section *Health Laws* in this article.

Fat.— The fat, like the blood, was reserved for the altar. Its prohibition was therefore limited to the fat of sacrificial animals — kine, sheep and goats — and did not refer to that of other clean animals or birds. It was further limited to the fat similar in character to the intestinal fat, lying in layers separate from the flesh, and did not refer to that which was grown with the flesh (Lev. iii, 16, 17; Shul. Aruch, Yore Deäh § 64). The traditions of Karaitic Jews differ from those of Rabbinical Jews with regard to the extent of the fat prohibition (Adereth Eliahu, Chap. 19). The curious suggestion of Michaelis that the prohibition was due to the desire to further the

oil culture of the country has no foundation. For hygienic aspect, see section *Health Laws.*

"Sinew which Shrank."— "Therefore shall the children of Israel not eat of the sinew which shrank which is upon the hollow of the thigh" (Gen. xxxii, 32; cf. Septuagint). The prohibitioin of the nervus ischiadicus (?) commemorates the great triumph of Jacob, when, through his victory over the Angel of the night, he received the name Israel, and despite his own injury compelled his conquered opponent to bless him. It is the special moment of great achievement to Jacob (Hosea xii, 4, 5) and of supreme destiny to his children (Gen. xxxv, 10, 11). Owing to the disputed nature and locality of the prohibited sinew, the prohibition has been extended to both the nervi ischiadici, the adjacent veins, tubular sinews and fatty fibres. The removal of all these, however, demands a special knowledge and expertness infrequent in many Jewish communities; so that the sirloin, etc., is not generally available for food except in the Orient and eastern Europe (Shul. Aruch, Yore Deäh § 65).

Slaughtering.—All animals that die otherwise than by Shehitah, ritual slaughter, are termed Nebhelah (that which dieth by itself), and all that are torn by beasts or are afflicted by any fatal disease or lesion are called Trefah (the Torn). In both cases their use for food is prohibited. The ritual slaughter, Shehitah, is one of the most important functions in the Jewish ceremonial and is always in the hands of trained experts (Deut. xii, 21). The knife used is specially sharpened and repeatedly tested by experts to ensure a perfectly sharp and smooth edge. Its blade, being usually 14 inches in length and two inches in width, is specially adapted for rapid manipulation. It must then be drawn with a steady stroke across the throat, severing the trachæa and esophagus and dividing the pneumogastric nerve controlling cardiac action, and the carotid artery and jugular vein. Reserving hygienic considerations for "Health Laws," the following effects of the process must be noted. They formulate the result of a vast number of experiments comparing all the known methods of slaughtering animals, conducted by Dr. Dembo in Saint Petersburg under the auspices of a scientific commission: (1) Comparative Painlessness of Death.—(a) The severing of the great blood-vessels, producing instantaneous anæmia of the brain, results in absolute unconsciousness — the gray matter of the brain ceasing its function at once and complete loss of consciousness following in three to five seconds. (b) The cut is exceedingly rapid, seldom consuming more than one second in time, as the knife is sharpened and smoothed with extraordinary precaution; consequently the pain of death is minimized. (2) Economical Considerations.—(a) Through the much earlier appearance of rigor mortis, the meat is sooner available for food. (b) Through the much later appearance of decomposition, the meat remains longer available even in summer (Shul. Aruch, Yore Deäh §§ 1–27).

Inspection.— While the proper performance of Shehitah excludes the animal from the category of Nebhelah, it must be further examined to ascertain beyond all question that it is not Trefah (suffering from any mortal disease or lesion). This examination, Bedikah, is purely hygienic and is treated under section *Health Laws.* But just as the Shehitah (ritual slaughter), with all its far-reaching ethical, economical and hygienic consequences, originated in all probability with the necessities of the altar service — to pour out the blood for sacrifice — so the Bedikah (examination for disease) with all that it involves had its prototype in the temple service in the priestly examination of the sacrifice for disqualifying blemishes (Lev. xxii, 20–25; Malachi 1, 8).

Extraction of Blood-Vessels, etc.— The prohibition of the blood, the fat and the nervi ischiadichi necessitates the careful extraction (nikkur) of certain blood-vessels, membranes, fat layers and tissues, sinews and fat-fibres from various parts of the body (Shul. Aruch, Yore Deäh § 65.) English-speaking Jews call this process of extraction "porging," a word derived from the Judæo-German "porschen." The process is very elaborate ('Jewish Encyclopedia,' article "Porging") in the case of animals. It is, however, very simple in the case of fowl, where the prohibition neither of fat nor of the nervi ischiadichi obtains.

Salting, etc.— There still remains one further process Melihah (salting), before the meat is fit for food, and that is the soaking and salting thereof to remove the surface blood. Salt also came on the altar with sacrifices (Lev. ii, 13; Ezek. xliii, 24). The hygienic importance of Melihah is referred to under section *Health Laws.*

Products of the Prohibited.— Not only are the unclean and the diseased animals prohibited but all their products. Thus the milk and cheese of both unclean and diseased (Trefah) animals are prohibited. Milk and cheese should not therefore be purchased in the general market without superintendence. Human milk is prohibited for the adult and even for the child who has once been properly weaned. So the eggs of unclean birds and all eggs on whose yolk a drop of blood is found are prohibited. In like manner the roe of an unclean fish cannot be eaten. Honey, however, is permitted, as it is not regarded as a product of the bee, but simply as the nectar gathered by the insect (Shul. Aruch, Yore Deäh § 81). In the case of any mixture of the forbidden and the permitted,— if the taste of the forbidden object be discernible, then all is forbidden. So cheese which has been curdled with a prohibited rennet is entirely prohibited, and some superintendence ought to be exercised over the manufacture of cheese.

Meat and Milk.— The threefold repetition of the command "Thou shalt not seethe the young in its mother's milk" (Deut. xiv, 21) is traditionally interpreted as referring to the threefold prohibition of cooking meat and milk together, of eating this mixture or of deriving any benefit from it. The interpretations of the command have been many and varied, but two predominate, and have certain justification. Philo construes it as an ethical law similar to (Deut. xxii, 6, and Lev. xxii, 28), denouncing cruelty to animals and intended for the moral discipline of the people. The milk that was set apart by nature for the nourishment of the young should not be used as the medium in which the young is seethed. Maimonides explains the prohibition as directed against an old heathen custom or magical rite of propitiat-

ing the nature gods by sprinkling the fields with this meat and milk broth. This explanation of the prohibition has also been advanced by Spencer and Cudworth and has received some support from modern authorities. Meat and milk are never partaken of together at the same meal, sufficient interval being allowed, if the meat has been eaten first, for it to be digested before partaking of milk. The prohibition refers with equal force to any preparations in which meat or milk enters (Shul. Aruch, Yore Deäh §§ 87-97).

Vegetable Dietary Laws.— Not all the food laws concern themselves with meat. There is the injunction concerning Orlah which forbids the use for food of the fruit of a tree in the first three years of its growth (Lev. xix, 23–25). The yield of the fourth year, or its money equivalent, was brought to Jerusalem and used for special rejoicing and feasting. The prohibition of the fruit crop of the first three years continues binding to the present day. Another law of somewhat similar character is that of Hadash which prohibits the eating of the new corn until the time of the offering of the Omer (Lev. xxiii, 9–14). The sowing of mixed seeds in a vineyard is prohibited (Deut. xxii, 9). Should, however, the prohibition be transgressed, then the produce cannot be used for food. But the most important vegetable dietary laws are those of Hametz and Matzah commemorating the Exodus from Egypt. During the eight days of the Passover festival no leaven (Hametz) can be eaten and none may be permitted to remain in the house (Ex. xiii, 7). There is furthermore the positive law that unleavened bread (Matzah) shall be eaten.

Heathen Food Laws.— Another group of dietary laws are either prohibitive of the objects of idolatrous worship or of intercourse between Jews and idol-worshipers. The most important of these refer to the use of wine. Wine that has been consecrated to an idol is absolutely prohibited. But even the ordinary wine of the heathen is prohibited, partly because of the suspicion that he may have consecrated it to his idol but also to create a social barrier that would make the possibility of intermarriage more remote (Ab. Zarah 36B). Furthermore wine that has been touched by an idolator, though belonging to a Jew, will be under suspicion of having been idolatrously consecrated and its use prohibited. The general stringency of the regulations is, however, influenced by the specific conditions of social environment.

Health Laws.— There has been considerable dispute as to the existence of a class of professional medical men distinct from the priestly class in Biblical times. The occurrence of the expression "thy healer" (Ex. xv, 26) has been advanced as an argument for the affirmative, but the whole verse may be interpreted as referring to a union of the sacerdotal and the medical offices. Certainly the context in Ex. xxi, 18–20 seems to imply that the doctor was paid; and there is mentioned in Isaiah the Hobhesh or woundbinder. Asa, king of Judah, is reproached for having sought help from the physicians and not from God. The Prophets were frequently appealed to for aid in sickness and one interesting cure is recorded as having been made by Isaiah. King Hezekiah had fallen sick of a disease which Lauder Brunton identifies with the inflammation of the tonsils. The prophet cures him with a plaster of figs,— a remedy not unknown to modern treatment. Later, we find physicians highly honored (Ecclesiasticus xxxviii, 1–8), and numerous evidences of considerable skill on their part. A long array of famous physicians is recorded in the Talmud and many difficult operations are credited to them (Kotelmann, Virchow's 'Archiv.,' Vol. 84). A prolonged controversy has raged round the interpretation of a passage in the Talmud (T. B. Niddah 40A) which according to one reading refers to the successful performance of "Cæsarian Section," Hysterotomy, mother and child both being saved. Of special importance is the physiology and pathology of the Talmud tractate Hullin. Certainly the health laws of the Bible give eloquent testimony to the advanced condition of social hygiene. Certain biotic advantages have been claimed for the Jew. Greater longevity, greater fecundity, greater exemption from tuberculosis and syphilis, special capacity for acclimatization, are among these. But the advantages do not appear to be racial and seem to be entirely dependent upon the degree of the observance of the special laws, and to be forfeited with the non-observance of these (Adler, Nossig).

Work and Rest.— The first health laws are given in the Decalogue with the institution of the six days of labor and the seventh day of rest. The hygiene of labor is clearly recognized in Jewish law. Even the scholar is enjoined to acquire a handicraft (Pirke Aboth ii, 2). The necessity of physical training is insisted upon with emphasis, and it is accounted a paramount duty for the father to teach his child a craft and to train him to swim. Even the women of the wealthiest class are enjoined to work because of the destructive effect of idleness upon moral strength and mental sanity (T. B. Kethuboth 59B; cf. Proverbs xxxi), but over pressure has been guarded against by the complementary regulation of a full day of periodical rest. Since the nature of the toxins produced by fatigue and the extremely gradual rate of their elimination from the system have been more clearly recognized the Sabbath rest has become a scientifically demonstrable hygienic necessity, which no shortening of the day's labor can possibly supply.

Food.— Nearly all the food laws have their hygienic aspect. The prohibition of the carnivoræ with their exclusively nitrogenous diet; of the swine with its tendency to trichinic infection, and the readiness of its meat, as most freely productive of gelatine, to provide a favorable nidus for morbific bacilli (Dr. E. Ballard), has been welcomed as a health law of importance. Dr. Borell of Göppingen (Virchow's 'Archiv.' 65) describes the presence of worms similar to trichina in the blood of the raven, and Virchow adds, that this is a variety of Filaria similar to the Filaria sanguinis hominis which is known to be the cause of chyluria and chylous hematuria and supposed to be the cause of Elephantiasis. Similar discoveries have been made by Herbst in the blood of the crow, the daw, the hawk and the jay. The rejection of eels, muræna, oysters, mussels and crabs from the list of foods has been regarded as hygienic since these feed largely on

sewage, and have been the causes of numerous epidemics, especially of typhoidal character. The ordinary mussel, mythis edulis, has had its poison examined and analyzed by several specialists (Virchow's 'Archiv.,' Vols. 103, 104, 110, 115). The preference for the scaled fish of the sun-bathed, purer and more highly oxygenated surface waters has also its hygienic aspect. Recent investigation as to the propagation of disease through insects and animals,— malaria and yellow fever by the mosquito, typhoid by the fly, pneumonia by mice, hydatid cysts by the dog, etc., seems to afford continually growing evidence to the hygienic value of the food-laws and of the elaborate regulations concerning the defilement of person, clothes, foodstuffs and utensils by contact with the various species (Lev. xi, 32 et seq.).

The rejection of blood has also its hygienic effect. It is in the blood that toxins produced by disease germs and occasionally the germs themselves circulate, and this makes it a vehicle for communication of disease; and further by its own rapid decomposition, it becomes also an original source of disease. The intestinal fat has also been considered by many hygienically objectionable, as harboring parasites in the lymphatic ganglia (Ebstein). In the method of slaughter (Shehitah) a valuable group of health laws is encountered. (1) The two main characteristics of the Shehitah are the quick bleeding and the accompanying epileptoidal convulsions. These produce, after certain chemical reactions, the acid phosphate of potash, KH_2PO_4, which is antiputrefactive. It hinders the development of micro-organisms, delays the formation of the products of decomposition of ptomaines and toxins, and imparts an additional savor to the meat. (2) Through the epileptoidal convulsions the blood left in the meat is less alkaline and therefore less favorable to the development of bacteria (Dembo). The Bedikah (Examination) is avowedly a pure health law. Its function is to determine whether or not the animal was suffering from any fatal disease or lesion, as this would make it Trefah, "Torn," and unfit for food. For this purpose the chief organs have to be examined, especially the lungs. It must be clearly determined whether or not there are any adhesions either of one lobe of the lungs to the other, or the whole or part of the lungs to the diaphragm or chest wall. The lungs are tested for perforations by inflation during immersion in water. The surface of the lungs is examined for tubercules of any kind (Dr. Behrend in *Nineteenth Century*, 1889). Inspection of other organs occurs only when symptoms are observed indicating the presence — or when there is general prevalence — of some affection. Nor are the lungs of a fowl examined unless there is special ground for suspicion. Koch (Inter. Med. Cong. 1890) has, however, shown that tuberculosis of fowl is a species distinct from human or bovine tuberculosis and is innocuous to man.

Melihah, or "salting the meat" prior to use, has for its purpose the removal of the stagnant, impure, diseased, germ-laden, surface blood. When the conditions, under which meat has often to be kept before use, be remembered, the health value of the Melihah law will be clearly apparent (Hyamson, *Jewish Quarterly Review*, Vol. IX). The avoidance of the mixed meat and milk diet has also been hygienically commended. It is claimed that the simultaneous ingestion of soluble and fibrinous albumen is not well borne by the gastric apparatus (Aronstam). Of importance are the special laws aiming at the purity of water and milk. In countries where poisonous reptiles abound, water and milk must not be left uncovered. Articles of food should not be kept in any unclean place, as under the bed, nor be served from any impure vessel. Timely and simple diet is recommended. There are 83 diseases that are prevented by an early breakfast of bread and salt and a pitcher of water. For health reasons, it was enjoined that meat and fish should not be eaten simultaneously.

Body.— In its insistence on the purity of the body Jewish law presents a unique phenomenon. As Leroy Beaulieu declares, "for 25 centuries the Jew has striven to be clean, and alone has observed the laws of moral and physical purity." Yet here as elsewhere there should be no confusion between effects and motives. Though the motives were to a considerable degree avowedly hygienic, yet predominantly they were religious. Ablutions were demanded from the Jew, for prayer could not be pronounced amid physical uncleanliness; his body had to be scrupulously clean for the Phylacteries could not otherwise be worn. At the very moment of rising, ablution of the hands and face was enjoined — without this he could not offer his morning prayer (Psalm xxvi, 6). Before and after every meal the hands had to be washed and a special benediction for the injunction of cleanliness pronounced. After every unclean bodily function, after touching any unclean object, after visiting a cemetery, ablutions had to be performed. Although water is truly precious in the East, yet there never was stint of it for the purposes of cleanliness. Rabbi Akiba in prison preferred to leave his thirst unassuaged, and used his dole of water for ablutions. It was prohibited to live in a town that had not a bath, and the use of water was regarded as the infallible panacea. "Better a little cold water in the morning and a warm hand and foot bath in the evening than all the salves in the world" (Shab. 109A): "Man endangers the eye, nose, mouth and ear if he touch them with unwashed hands." The value of the warm baths of Emmaus near Tiberias, of Gadara in Peræa and Callirrhoe near the Dead Sea, was thoroughly appreciated. Nor were æsthetic considerations overlooked in the case of the body. Physical beauty was highly valued (T. B. Berachoth 20A). The long list of blemishes and disfigurements, over 150 in number, that were disqualifying for the priesthood points to the existence of a high standard for physical conformation (Sifra, Emor III).

Clothes.— The view entertained as to the cleanliness of clothes is tersely stated in the apothegm, "the sage upon whose garments a grease spot is found is worthy of death." The uncleanliness of his garment was an insult to the holy law whose dignity it was his duty to protect. Whenever the man has been in contact with any impurity, whether it be one of the leproidal diseases or the impurity of the corpse, or any sexual impurity, it is not only his body, but also his clothes that have to be

washed. It is perhaps unduly imaginative to see in the law which prohibits the wool being mixed with flax in the manufacture of garments, an anticipation of Jaeger (M. N. Adler). But Ebstein insists nevertheless that such a garment would be hygienically harmful as the wool would tend to warm and the cotton or flax to cool the body and there would be unequal protection for the body surface (Deut. xxii, 11). There is a reference in Leviticus to a peculiar species of reddish or greenish discolorations occurring in garments and destroying the material. It is termed leproid and may be some form of fungoid growth. Where garments are worn for long periods such growths may occur. Directions are given for inspection and seclusion, lustration or destruction (Lev. xiii, 47).

Sanitary Arrangements.— The Bible already makes provision for the protection of the camp from the usual plagues of typhoid, diarrhœa and dysentery attendant on camp life. The consignment of all putrid matter to the earth — in a place without the camp — ensured disinfection and the protection of the water and the air (Deut. xxiii, 9–14). These admirable hygienic provisions are the direct consequences of the Holiness motive with its psychophysical implications: "that thy camp shall be holy." In the subsequent city life similar precautions were taken. It was prohibited to rear poultry or keep wild animals or permit dung-heaps to gather in Jerusalem (T. B. Baba Kama, 82B). No tannery could be erected within 50 cubits of the city limits, and then only to the east of the city so that the prevalent west wind would carry away the effluvia. Kimhi maintains in his comment to Psalm xxvii, that a fire burned continually without the city for the destruction of all cadavers and offal and refuse. Many scholars, though not all, accept this statement. Certain writers have referred to the extremely valuable sanitary results of the minutely scrupulous removal of all leaven from the homes before the advent of Passover (M. N. Adler). As this involves the thorough overhauling of the whole house from garret to cellar, the purification and cleansing of all utensils and kitchen accessories, and the destruction of the accumulation of scraps, etc.— the hygienic effects, however undesigned, must be acknowledged (Ex. xii, 19; Deut. xvi, 4).

Temperance.— Both in food and drink temperance was enjoined. Gluttony and drunkenness is the special crime of the rebellious son whose punishment is death. Wine was so important an article of food, that special influence was necessary to prevent its abuse. The stories of Noah and Lot conveyed their own moral. The priests were held unfit for office if they indulged in strong drink. The order of the Nazarites, and the clan of the Rechabites, upheld an ideal of abstinence. But yet the value of wine as a medicine was recognized (Prov. xxxi, 6). Nor was the ascetic attitude entirely approved of. The Nazarite brought his sacrifice when the term of his vow was over for having denied himself that which God permitted. "In the future world, man will have to account for every enjoyment that was offered to him and he has unnecessarily refused" (Jerus. Tal. Kid. IV). Yet there is no limit to the denunciation of drunkenness throughout the Bible.

Dwelling.— The Bible records the special protection to be afforded to the flat roofs of the houses. They were to be surrounded by a battlement so there should be no blood upon them (Deut. xxii, 8). The height of the battlement is fixed at a minimum of 3.06 feet. It must be strongly built and able to stand any ordinary strain. There are further injunctions prohibiting the presence of any open well or pit, or the presence of unsafe ladders about the house. There is a remarkable series of hygienic laws referring to a diseased condition of the house (Lev. xiv). The reference is probably to houses attacked by dry rot — merulius lacrymans, a fungoid growth inimical to the health of the inhabitants. There are clearly formulated in the regulations — (1) duty of declaration; (2) duty of examination and diagnosis; (3) complete removal of the affected parts without the camp; (4) scraping of the interior of the house and removal of the dust and débris without the camp to the unclean place; (5) on return of the affection, the house is to be completely destroyed; (6) all the persons who have been in the house, eaten or slept therein, must be purified through the washing of clothes and person (Baginsky).

Disease.— Proceeding upon the principle that the whole law was given for life and not for death (Lev. xviii, 5, T. B. Ab. Zarah 27B), the interest of the patient is declared superior to any of the ordinary religious obligations;— even the sanctity of the Sabbath and the Day of Atonement giving way to the necessities of medical treatment. The duty of visiting the sick is a part of the great *Imitatio Dei* (T. B. Sota 14A) and the neglect of this duty is declared by Rabbi Akiba to be a criminal indifference to human life (T. B. Nedarim 39B). But the visiting must be helpful in act and reverent in spirit since the Divine Shechinah stands ever watching at the head of the bed of suffering. This visiting should, however, be entirely omitted if the nature of the disease or the attendant circumstances make it a source of embarrassment to the patient. In certain cases of disease or contact with disease measures for purification and disinfection have been enacted. Wherever there has been contact with the dead, or pseudo-leprous symptoms of disease, or sexual secretions and discharges — an elaborate process of washing and bathing for person and garments prevails.

Burial.— Interment must take place as speedily as possible (Deut. xxi, 22). It is the last and most unselfish act of kindness one can perform to one's fellow. God himself showed the example by burying Moses. All can claim interment, even the criminal executed on the gallows (Deut. xxi, 23). Cemeteries were extramural and were prohibited within a circuit of 60 cubits from the city limits. The dead were placed in caves and vaults and were visited by their relatives for three days after, to avoid all possibility of their being buried alive. After some time the remains were then interred in the grave proper. The rapid decomposition of the body to its constituent elements is regarded as desirable. While cremation is opposed to Jewish practice (Gen. iii, 10; Eccles. xii, 7), yet quicklime is frequently placed in the grave in some countries. The prevalent custom among observant Jews in

eastern Europe and the Orient is to have the coffin of the simplest construction,— a few boards nailed together,— with the bottom perforated,— so as to interpose no obstacle to rapid decomposition. The selection of the soil for cemetery purposes is of hygienic value,— as the ground must not be in contact with any water sources, and thus the danger of contamination of the water supply is minimized. An interesting account is given in the Bible of the composition of the "Water of Lustration" used for all who had been in contact with the dead. Undoubtedly the ingredients possess high disinfecting qualities. Into its composition entered cedar wood (coniferæ), rich in phenol and cresol and cedrene camphor; hyssop with its camphoraceous oil of penetrating aroma and other oils, rich in oxygen; the cremated carcase of the heifer, rich in potash and soda (Num. xix).

Sexual Relations.— There is a vast legislation controlling all the circumstances of sexual relation. The penalty of death is imposed for all acts of sodomy or unnatural intercourse, for connection within specially prohibited degrees and for adultery with a married woman (Lev. xx, 10–16). Excision is the penalty imposed for all other illicit connections. Prostitution is absolutely prohibited (Deut. xxiii, 18) and chastity is demanded from both sexes. Two of the commandments of the Decalogue are devoted to the maintenance of the purity of married life (Ex. xx, 14, 17), and the elaborate table of prohibited degrees protects it hygienically (Lev. xviii, 7–18). Thus the marriage institution is enabled to perform its proper function, the fulfilment of the law: "Be ye fruitful and multiply" (Gen. i, 28). Anticonceptional acts invited the Divine doom (Gen. xxxviii, 9), and the duty of begetting children is declared the supreme privilege and blessing (Psalm cxxvii, 3–5; Psalm cxxviii, 3–4). In opposition to the powerful current of opinion, favoring childlessness, that found support among Epicureans and Stoics in the interests of greater independence and possibilities of self-indulgence or self-development, and in Essenaic and Christian monachism in the interests of chastity and personal holiness, the rabbis compare a man voluntarily childless to a "shedder of blood" and "an opponent of God" and adjudge him unworthy of life (T. B. Yebamoth, 63B et seq.). Yet marriage is acknowledged to be also an end in itself (Gen. ii, 18), and an eloquent panegyric is pronounced over it. "He who is without wife, dwells without joy; without blessing; without good; without religion; without citadel; without peace. The wife is to be loved as one's self; to be honored more than one's self" (T. B. Yeb., 62B). The age recommended for marrying is about 18 years for the male and extreme disparity of age is discountenanced. The influence of modesty in love is declared of paramount importance for the character of the children (T. B. Niddah, 71A), and temperance is absolutely enforced by the rigid prohibition of sexual relations for a certain period succeeding the menses and parturition (Lev. xii, 2–5; xx, 18). Behrend maintains that the enforced temperance ensures procreation at a specially favorable period. The fecundation that occurs after the lapse of seven days following the cessation of the menses is much less likely to result in abortions. Circumcision was regarded by Philo and Maimonides as assisting in the promotion of temperance by weakening the erotic element (cf. Bereshith Rabbah, § 80) while increasing functional power. Motherhood was honored even in animals (Lev. xxii, 28; Deut. xxii, 6). The time preceding and following parturition is the occasion for the exercise of extreme care both dietetically and mentally (Jud. xiii, 7; T. B. Yoma, 8; T. B. Kethuboth, 60B). The nourishment of the child is the duty of the mother (1 Sam. i, 23), the mother's milk being regarded as the best food. With regard to sexual impurities the laws are very minute and detailed and refer to the impurity through coition, the menses, parturition, secretions and discharges of various kinds. Segregation, bathing and washing of the clothes, etc., are the means by which purity is restored. The laws in Leviticus (chaps. xii–xv) are elaborated in the Shulhan Aruch, Yore Deäh, §§ 183–200. The fullest protection is given to woman and the utmost hygienic precautions are taken (Baginsky).

Leproid Impurity.— Much controversy prevails concerning the leproid affections referred to in Leviticus (chap. xiii et seq.). One group of interpreters identify the disease here referred to with true leprosy, *Lepra Arabum* or *Elephantiasis Græcorum* (Häser, Michaelis, Neumann, Fox). A second group regard the Zaraath of Leviticus as a generic term covering a large variety of skin diseases ranging from true leprosy to the comparatively mild psoriasis (*Lepra Græcorum*), scabies, eczema and possibly syphilitic affections. (Aug. Hirsch, Liveing, Munro). Others again find no connection at all with true leprosy (Hebra, Münch, Hillary, Finály, S. R. Hirsch). Thus Münch maintains that the *Lepra Arabum* was quite unknown to the early Hebrews. Finály gives a peculiar and unwarranted connotation to the diseased "skin of the flesh" (Lev. xiii, 2) and would confine the whole legislation to syphilitic affections. Hirsch, Hoffmann and other theologians regard the disease as a purely symbolical affection, similar possibly to the "mark of Cain" (Gen. iv, 15).

The following are the main negative considerations that influence those that deny all reference to true leprosy: (1) The absence of the characteristic symptoms of *Lepra Arabum;* anæsthesia, muscular atrophy and loss of extremities, etc. (Cf. Sforno on Lev. xiii, 2). (2) The extreme brevity of the interval of seven days, between the different inspections that determine the presence or absence of a serious affection, points away from leprosy which is characteristically slow in development. (3) The excessively mild enforcement of the regulations in the later development of the law makes the identification of Zaraath with true leprosy highly improbable (T. B. Moëd Katan, 7B). (4) The Biblical Zaraath seems to be regarded as an hereditary and contagious disease. Many authorities, however, consider true leprosy to be neither contagious nor hereditary. (5) Certain anomalies in the regulations suggest a symbolic disease or infliction of stigmata expressive of Divine displeasure rather than a true disease (T. B. Arachin, 16A; cf. Ex. iv, 6; Num. xii, 10). Thus when the white leprous

efflorescence covers the whole body the affection is pronounced clean and neither isolation nor further inspection follows. Yet this complete efflorescence is apparently a characteristic of the incurable Egyptian leprosy. (Deut. xviii, 35).

None of these considerations is, however, conclusive, and most probably Zaraath in the Bible is a generic term including many diverse skin diseases and among them true leprosy. The characteristics of the advanced stages of *Lepra Arabum* do not seem to have been unknown (Num. xii, 10, 12; Deut. xxviii, 27, 35), and the reference to Egyptian leprosy seems to point to true leprosy, which was known in Egypt (Ebers). In Leviticus, however, the earliest symptoms alone are given to determine the presence of the disease. The laxity in the enforcement of the rules in later times may be explained by the gradual decrease of true leprosy among the Jews, and the consequent limitation of Zaraath legislation to the minor skin affections. The terrible diseases that decimated the army of Pompey were largely leproid in character (Pliny), and the immunity of the Jews to all these is affirmed by Tacitus. Similar testimony to the freedom of the Jews from leprosy is afforded by Plutarch (Sympos.) and Aelian ('De Natura animal'), who assert the consumption of swine to be the cause of leprosy and skin disease (cf. T. B. Kiddushin, 49B). The apparent anomalies are removed if Zaraath be regarded as a term covering many widely different skin affections. Modern science has discovered the special leprosy fungus, *Bacillus Lepræ*, and has, on the whole, vindicated the Bible view of leprosy as contagious. Its hereditary character has been less clearly determined, but it is also less clearly implied in the Bible. The main points of hygienic interest are those referred to in the affected house,— the insistence upon declaration of disease, diagnosis, isolation, lustration, etc.

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JOSEPH MAYOR ASHER,
Late Professor of Homiletics, Jewish Theological Seminary of America.

20. JEWISH CHARITIES. On 26 April 1655, the board of directors of the Dutch West India Company wrote to Governor Stuyvesant as follows: "After many consultations, we have decided and resolved upon a certain petition made by said Portuguese Jews, that they shall have permission to sell and to trade in New Netherland and to live and remain there, provided the poor among them shall not become a burden to the company or to the community, but be supported by their own nation."

The records of the department of charities of the city of New York show that on 6 July 1916, in a Jewish population approximating 1,250,000 in Greater New York, in the almshouse on Blackwell's Island there were 72 pauper Jews, of whom the majority were blind, idiotic or possessed of some peculiar defect which prevented admission to existing Jewish charitable institutions. These figures indicate how thoroughly the Jews of New York have assumed the responsibility imposed upon them over 250 years ago. The same is true of Jews throughout the United States. In our modern day, under more favorable conditions and auspices, the Jew has, to some extent, become non-sectarian in his philanthropies. Hospitals, as a rule, supported and endowed by Jews, throw open their doors to sufferers irrespective of creed, color or nationality. Other instances could be cited of charities, not medical, organized along similar lines. The Jewish free employment bureaus of New York make no distinction with its applicants. The Educational Alliance and other Jewish social centres in the same city offer their clubs and classes to the Jew and Gentile alike. Jewish agencies, giving material relief, or to use a better term, those which care for the needy in their own homes, in the main confine their work to beneficiaries of their own faith, without, however, making any rigid distinction. On the other hand, the trend of Jewish charity has been in the direction of caring for the Jewish poor, solely through Jewish agencies, and without the intervention or co-operation of other sectarian or non-sectarian societies or institutions.

The problem of the Jewish charitable societies of the United States to-day is the problem of the care of the immigrant. As such, it passes beyond merely local lines. In some of its manifestations it is national in character and in a few it has an international significance. The fact that the large bulk of the needy Jews in the United States reside in New York is accidental, and concerns the Jews of Denver and San Francisco equally with those of the Eastern seaboard cities. Insofar the problem is a national one. Moreover, to deal intelligently with the question requires a knowledge of the immigrant's antecedents, the impelling motive which brought him to the United States and an acquaintance with his previous environment. And here the international phase of the question comes in. Roughly speaking, it may be said that there are no American-born Jewish poor. Of the 9,274 families who applied for assistance to the United Hebrew Charities of New York during the year ending 30 Sept. 1915, 2 per cent were born in the United States. And of these the majority of heads of families were of the first generation. Jewish dependents who have an ancestry in the United States of more than two generations are practically unknown. It must not be concluded, however, that Jewish immigrants become dependent on their arrival. In 1915 only 13.59 per cent of applicants at the United Hebrew Charities of

New York were in this country less than five years.

In the year 1881 began that great wave of emigration from eastern Europe, the end of which is not yet. Driven by a relentless persecution, which endangered not only their homes but frequently their lives, thousands of Jews were compelled to flee from their homes to seek new residence on these shores. The Russo-Jewish committee which originally undertook the work of caring for these immigrants turned it over very shortly to the Hebrew Emigrant Aid Society, which came into existence in December 1881. In one year this society spent $250,000, $50,000 less than had been spent by the United Hebrew Charities of New York in the seven years of its existence. In the first and only annual report of the Emigrant Aid Society its president outlined as tersely as possible the efforts that had been made to provide homes and occupations for the thousands of fleeing exiles who reached these shores during the momentous summer of 1882. In the month of July the committee spent for board and lodging alone over $11,700.

With the gradual falling off in immigration, the Emigrant Aid Society went out of existence, and the care of the needy immigrant who remained in New York and who became impoverished after residence reverted to the United Hebrew Charities. In 1885 immigration again began to grow heavier and continued to grow in such numbers that in the following five years over 120,000 immigrants arrived at Castle Garden. In 1890 the immigration reached the figures of 32,321, the largest number ever recorded up to that time. With all that had been done, the real work of the charities was but to begin. In 1891 the religious persecution of the Russian Jews reached a climax. In the year ending 30 September, 62,574 immigrants arrived at New York, of whom nearly 40,000 arrived between June and September. The entire charitable effort of the New York Jewish community was for the time directed out of the ordinary channels and applied to this monumental question of caring for the arriving Russian Jews. The Baron de Hirsch Fund, instead of utilizing its income for its educational work, appropriated over $67,000 to the United Hebrew Charities to assist in the work of the Immigration Bureau. Over $175,000 was spent by the United Hebrew Charities during this year. In September of 1891, it became apparent that there would be no cessation to the immigration, and that much larger funds would be necessary to give anything like adequate assistance to the unfortunates who were arriving at the rate of 2,000 per week. The enthusiasm which was aroused at a banquet tendered to the late Jesse Seligman brought into existence the "Russian Transportation Fund," which added over $90,000 to the revenues of the United Hebrew Charities and which was given by the citizens of New York, irrespective of creed. Later in the year, a standing committee of the society, known as "The Central Russian Refugees Committee" was organized and was made up of representatives of the Baron de Hirsch Fund, the Russian Transportation Fund, the United Hebrew Charities and the American Committee for Ameliorating the Condition of the Russian Exiles. The last committee was organized to secure the co-operation of relief societies in other cities, in order that the various European societies who were assisting the persecuted Russians to emigrate should thoroughly understand the attitude of the New York organization. The year, October 1891 to September 1892, will ever be a memorable one in the history of the Russian emigration and of Jewish philanthropy; 52,134 immigrants arrived at the Barge office in that time. The treasurer of the United Hebrew Charities paid out the enormous sum of $321,311.05, of which $145,200 was spent by the Russian Refugees Committee between February and September.

Since the year 1881, 1,981,563 Jewish immigrants have arrived at the port of New York alone. Of these, the bulk comprise refugees from Russian and Rumanian persecution, Austrians and Galicians. They came from countries in which many of them lived under conditions of appalling poverty. The records of the Immigration Bureau show that from the standpoint of material wealth, these immigrants are below the average of immigrants from other European countries. Due to their previous condition, a goodly percentage is illiterate. On the other hand, the number of skilled artisans and craftsmen is so large as to be distinctly noticeable. In 1909, the work at Ellis Island was turned over to a newly-created society known as the Hebrew Sheltering and Immigrant Aid Society.

Many years ago it was realized that the increasing settlement of this population in the city must be discouraged as far as possible and two organizations, generously endowed with funds, the Jewish Agricultural and Industrial Aid Society, established in 1900, and the Industrial Removal Office, established in the same year, began a concerted movement to distribute as many of these immigrants as possible over the less thickly populated sections of the country. The former encourages their settlement on farms; the latter in the smaller industrial centres of the country. These attempts have met with great success, 85,000 Jewish souls having been satisfactorily removed to the interior and placed in positions where they have been self-supporting. But these numbers form only a small part of the influx of Jewish immigrants during this period.

In 1907, Mr. Jacob H. Schiff organized a movement which he alone has supported in this country, to divert Jewish immigrants from the Atlantic seaports to the Far West, through the port of Galveston, Tex., and through this movement has accomplished substantial results, about 9,000 immigrants being distributed in this way to the sparsely settled sections of the country. While it has not stemmed the tide to any considerable degree, it has established, in those which it has settled, centres of attraction for thousands of others who would otherwise have come to the Atlantic seaports. This movement was abandoned just before the European War broke out in 1914.

The experience of these organizations have long pointed the way for governmental action. Several years ago, a division was created in the Immigration Bureau of the Federal government, known as the Division of Information, whose purpose it has been to encourage the distribution of immigrants throughout the country so as to relieve congestion in the large seaports.

As stated before dependency among Jews in this city is largely the result of immigration. By that it was not meant that the newly-arrived required assistance, but that those in need of aid belonged nearly entirely to the class who were handicapped in their struggle for existence because they were strangers in a strange land. But as the years pass, these people depend more and more upon themselves and resort to community aid only in exceptional cases.

In spite of the large increase of population, there has been a constantly diminishing number of applications for relief at the United Hebrew Charities of New York and its co-operating societies. Many of the immigrants who came here 10 and 20 years ago are now very comfortably situated, notwithstanding, if an investigation were made of their history, many of them would be found recorded on the books of the United Hebrew Charities. Even with the great mass of Jews who settled here during the past generation and who are still in the wage earning classes, very few find it necessary to apply for relief when in temporary distress. During the great cloakmakers' strike in 1910 and the shirtwaist makers' strike shortly after, involving approximatelv 100,000 workers, practically none of these persons found it necessary to ask aid of the charities, in spite of the fact that they were out of employment for four months. The panic of November 1907 threw hundreds of thousands of persons out of employment; nevertheless, a negligible number of persons applied for assistance and these did not come to the doors of the charities until June of the following year. The masses of the Jewish wage earners in this city have established, and effectually organized for themselves, their own mutual benefit societies to which they resort during emergencies of illness, accident, death and unemployment. There is hardly a Jewish workingman or storekeeper of the immigrant class who does not belong to a mutual benefit society. These people have demonstrated in a marvelous fashion that social insurance is better than charity.

Though the mutual benefit societies have been the most important factor in the reduction of community dependency, there have been minor factors that must not be ignored. The Industrial Removal office and the Jewish Agricultural and Industrial Aid Society, above referred to, have contributed their share to this happy situation. The Hebrew Free Loan Association is another organization peculiarly Jewish, which is, to some degree, responsible. This organization was established about 20 years ago and since that time has loaned sums ranging from $5 to $200 in 240,000 cases without investigation and without security, also without interest, but simply upon the guarantee of two responsible persons that the sums loaned would be returned. Only five-eighths of 1 per cent of the $7,000,000 thus loaned has not been repaid.

In spite of the growing independence of the great masses of the Jewish people in this city, the United Hebrew Charities finds it necessary to continue its activities and because the families who do require aid are, for a large part, in the position where continuous assistance and treatment must be afforded, increased funds are necessary both for relief and for administration. In 1903, the society disbursed about $200,000, aiding during that year 7,900 families. In 1913, the society expended about $300,000, aiding 3,996 families. But this was not the only cause for this increase in disbursements. Two other causes have operated, — first, the cost of the necessities of life has substantially increased, and secondly, higher standards of relief have been adopted by the organization.

The United Hebrew Charities limits its activities to what was the city of New York before the consolidation of the boroughs, that is, to Manhattan and the Bronx. It was established 45 years ago, as an off-shoot of the Hebrew Benevolent and Orphan Asylum Society, and was composed of the following organizations: Hebrew Benevolent and Orphan Asylum Society, The Hebrew Benevolent Fuel Association, the Hebrew Relief Society of Congregation Shearith Israel, Ladies Benevolent Society, Congregation Gates of Prayer and the Hebrew Ladies Benevolent Society of Yorkville.

The general character of its relief work does not differ materially from that of the other large relief organizations, except in this respect, that for many years the United Hebrew Charities has maintained a large list of pensioners, so-called, that is, of the families who after a careful investigation are found to be in a position where regular and continuous relief is necessary. These families are visited from time to time, irregularly, to determine whether their conditions have changed, requiring a readjustment of the treatment, or at such times as the families themselves seek advice or additional aid.

As to the causes of distress among Jewish families, these do not differ except in one respect from the causes that operate among non-Jewish families. It can safely be said that much of the dependency prevailing here is due to circumstances over which they have little control. Sickness among Jewish cases is responsible for 45 per cent of the applications; half of this is due to tuberculosis; 60 per cent is due to widowhood. Among the other 25 per cent, employment plays its part, old age, physical and mental handicaps play their part, as well as family desertions. These causes cannot be presented with scientific accuracy. An analysis of the causes of distress are highly intricate and complex, as Dr. Devine points out in his book 'Causes of Misery.' What part heredity plays in bringing these victims to the doors of the charities is difficult to determine, but unquestionably it plays its important rôle, for if every Jewish widow, tuberculosis patient and chronic invalid were to apply to the organization for assistance, the numbers now coming would be multiplied several times. There is one cause which is absent among Jewish families,— the drink evil is practically unknown among Jews.

The United Hebrew Charities has consistently pursued the policy of attacking the causes of distress so far as it has been able. In most instances, the removal of the causes could not be brought about by the organization itself, because they are governed by conditions beyond its control. There is one cause, however, which it has been able to attack in a substantial degree, and that is, family desertion. The impression may have been created because of its extraordinary activity in this direction, that this evil prevails to a larger extent among Jews

than among other families, but this is not so. The records of other organizations show that desertion is as large a contributing factor in dependency among other people. As a result of the work done by that organization, the National Conference of Jewish Charities established the National Desertion Bureau in 1910 to act as a clearing-house for desertion cases for all Jewish charities throughout the country. Up to the present time about 10,000 such cases have been taken up and in about 75 per cent the deserter has been located. In nearly all the instances they were reconciled with their families or an arrangement was made under which they resumed the support of the family, even though separated from them, and in a few cases where the deserter refused to resume his moral and legal obligations, the laws on the subject were invoked. The reports of that bureau are among the most interesting human documents ever published.

The cornerstone of Jewish charity is aid to "self-help." Maimonides, the great Jewish law codifier, enumerated eight different kinds of charity in the order of their merit. The first was aiding the poor to help themselves. This principle has always been the primary object of so-called "case work," with all of these organizations. Similar methods to accomplish these results are followed with variations by all the large relief organizations. In the case of the Jewish charities, the instruments employed are in some respects similar and in others different. About $15,000 of its funds are yearly applied in the form of loans without security to enable persons to become self-supporting in small businesses. These means come largely from what is termed "The Self-Support and Self-Help Fund." A few years ago the organization established a workroom for women on a modern business plan, where neckties and shirts, boys' wash suits are manufactured with electric power machines. To this workroom have been sent many women whose absence from the home caused no neglect to their children, nor worked unusual hardship to the women themselves.

It is only rarely that the able-bodied men apply to the organization. It is, therefore, not necessary under normal conditions to aid such people in securing work. There are always, however, a considerable number of handicapped persons applying to us who are able to engage in some vocation, but who because of their misfortune find it difficult to obtain employment. For these there is conducted an employment bureau. Much difficulty is experienced in securing work for such people. All of the Jewish Employment agencies were coordinated into a Placement Clearing House whose office was in the Hebrew Charities Building. Because the Federal government has established employment bureaus the work of these agencies is being rapidly turned over to the government bureaus.

In recent years, the spread of tuberculosis among Jews has merited the earnest attention of the society, and among its other activities the United Hebrew Charities has been a pioneer in developing a systematic plan for caring for such tuberculous applicants in their own homes, for whom no provision could be made in existing sanatoria. The campaign thus begun has been not only a charitable but a social one. Not only have these unfortunates been given food, nourishment and medical care to aid them toward recovery, but in addition thereto, instruction has been given them in the rudiments of sanitation and in the prevention of infection. It is significant that the work of the United Hebrew Charities in this field has been followed to some extent by the Committee on Tuberculosis of the Charity Organization Society.

In 1910, realizing the inadequate sanatorium treatment and also the limitations under which the United Hebrew Charities labored in dealing with tuberculous families, it entered into an arrangement with the Free Synagogue to join in an experiment with a view to determining what results could be accomplished with such families in their own homes, if adequate funds were afforded for their maintenance and for effective medical supervision and nursing. The results of that experiment were so encouraging that in 1913 the co-operation of the Montefiore Home was enlisted in an enlarged experiment along the same lines, and this committee, known as the Jewish Committee on Tuberculosis, is now doing this intensive and rehabilitative work with the family of every Jewish patient admitted to local sanatoria and is spending $60,000 annually to carry on this work. A very interesting activity carried on by this committee is a model garment factory employing upward of 150 former sufferers from tuberculosis, all of them receiving union wages. Practically none of these persons have suffered relapses.

The name "United Hebrew Charities" as applied to the New York organization is somewhat of a misnomer, since it does not include all the Jewish charitable agencies in the city of New York. It would be more proper to speak of it as the consolidation of all the purely relief societies which existed in New York prior to 1874. Aside from these, there are to-day hospitals, orphanages, technical schools for boys and girls, trade schools, day nurseries and kindergartens, guilds for crippled children burial societies, loan societies, societies for maternity relief and a goodly number of smaller organizations which have been founded by the immigrants of the last 20 years. Among the most important large organizations and institutions in New York may be mentioned: The Mount Sinai Hospital, Lebanon Hospital, Beth Israel Hospital, Montefiore Home, Hebrew Orphan Asylum, Hebrew Sheltering Guardian Society, Home for Hebrew Infants and Hebrew Free Loan Association. It is estimated that there are over 300 Jewish organizations and societies in the city of New York to-day, whose activities to a greater or lesser degree are directed along philanthropic lines. Practically all of the larger organizations, such as the hospitals, etc., work in co-operation with the United Hebrew Charities. In some of the other cities in the United States, where the question of the care of the poor is not so complex as in New York, closer co-operation has gone by leaps and bounds. In cities like Philadelphia, Cincinnati, Cleveland, Chicago and others, the individual societies have formed federations of charities, the purpose of the federation being to express the philanthropic impulse of the community in terms of greatest economy, the smallest amount of friction and the highest

possible efficiency. In Philadelphia the federation is the common treasury. It acts as the common collection agency of all moneys and distributes them pro rata among the various societies and institutions, whose autonomy is not impaired by this method. In other cities, this plan with some slight variations is in force. In New York after sporadic attempts a federation for the support of philanthropic societies was established in 1917 numbering 91 constituent societies.

In addition to these local federations, the various societies throughout the United States have joined together to form a national body known as the National Conference of Jewish Charities. At present it comprises the charitable organizations of 85 cities. Annual conferences are held. The published reports of these meetings indicate conclusively the wisdom and the necessity of founding such a national organization. The rules governing the transportation of dependents which have been in force in the National Conference of Jewish Charities since its inception were adopted, with alterations and additions, at a meeting of the National Conference of Charities and Corrections at the meeting held in Atlanta in May 1903. The official organ of the National Conference of Jewish Charities is a monthly publication, *Jewish Charities*.

Some idea of the extent to which the Jewish charities have been developed in the United States may be gathered from the following: In practically every city and town there are benevolent societies which look after the interests of the poor in their midst. Jewish orphan asylums are established in the cities of Atlanta, Baltimore, Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Newark, New Orleans, New York, Philadelphia, Pittsburgh, Rochester and San Francisco and Erie, Pa. In New York there are three institutions and in Philadelphia there are two. New York has a dozen Jewish hospitals and such cities as Philadelphia, Baltimore, Chicago, Cincinnati, Denver, New Orleans and San Francisco, and even smaller cities, each have one or more. Homes for aged and infirm are found in most of the large cities. Similarly, educational movements along philanthropic lines are developing throughout the country. These include organizations such as the Hebrew Educational Society of Brooklyn, The Hebrew Education Society of Philadelphia, The Jewish Training School and Hebrew Institute of Chicago, the Hebrew Free and Industrial School of Saint Louis, the Hebrew Industrial School of Boston, the Clara de Hirsch Home for Working Girls, the Hebrew Technical School for Girls, the Hebrew Technical Institute and the Baron de Hirsch Trade School, the last four being situated in New York. The Maxwell Street Settlement of Chicago and the Neighborhood House in Saint Paul are under Jewish auspices. Most of the large cities have Jewish settlements. In New York the Educational Alliance, the largest institution of its kind in the United States, has within the past few years developed a settlement with resident workers. Along educational lines, the Jewish Chautauqua Society, a national organization, has conducted a summer school in philanthropy in connection with its summer assembly held in Atlantic City, N. J. At these sessions, important communal problems of interest to Jewish workers in philanthropy have been considered.

Other national organizations of importance are the Jewish Agriculturists' Aid Society, the Baron de Hirsch Fund and the Jewish Agricultural and Industrial Aid Society. The first named, with headquarters in Chicago, is engaged in placing farmers throughout the Northwest, particularly in Dakota. The work of this society, while not on an extended scale, has nevertheless given results and has demonstrated the fact that it is possible to take residents of congested centres, remove them to country districts and make farmers of them. The Baron de Hirsch Fund was established under a foundation of the late Baron de Hirsch, the deed of trust being incorporated in March 1890. Its activities at present are directed to the conduct of the Baron de Hirsch Trade School in New York city and the Agricultural Colony at Woodbine, N. J., where the Fund has an Agricultural and Industrial School. The Fund likewise gives moneys to co-operating societies in various cities for the purpose of granting tools and teaching trades to recently arrived immigrants. The Jewish Agricultural and Industrial Aid Society is an offshoot of the Baron de Hirsch Fund, receiving money from the latter society and from the Jewish Colonization Association, which was created under a de Hirsch endowment. Its purpose is to find agricultural and industrial positions for Jewish immigrants. Under the care of this organization are the various colonies in South Jersey, aside from Woodbine, and the organization has made farm loans to farmers in various parts of the United States, particularly in Connecticut.

The number of philanthropic organizations has grown so large and their problems so complex that the National Conference of Jewish Charities has established a field bureau to study them and give advice to local committees. In New York a Bureau of Philanthropic Research has been created, under the auspices of the Council of Jewish Communal Institutions, to study local philanthropic needs and resources. These bureaus together with the Bureau of Statistics of the Jewish Committee have recently been amalgamated with headquarters in New York.

MORRIS D. WALDMAN,
Executive Director, United Hebrew Charities, New York City.

21. JEWS IN AMERICA. Although the Jewish population of America has been greatly increased by immigration only since 1881, Jews have been closely identified with American history for centuries.

Before taking up the history of the Jews in America, some statistics concerning the American-Jewish population at various periods will be in order, as tending to throw light on more isolated historical incidents relating, for the most part, to the experience of a small fraction only.

Statistics.— The latest and most authoritative statistics as to the present Jewish population of the United States are furnished by the 'American Jewish Year Book' (1918), wherein it is computed that the total number of Jews in this country is 3,300,000, of whom about 1,500,000 reside in New York city; in Chi-

cago, 225,000; Philadelphia, 200,000; Cleveland, 100,000; Boston, 77,500; Saint Louis, 60,000; Baltimore, 60,000; Pittsburgh, 60,000; Newark, 55,000; Detroit, 50,000, and San Francisco 25,000; all the other States and Territories, including Hawaii, Porto Rico and the Philippine Islands, and also the District of Columbia, likewise contain some Jewish residents. In making up this total, account is taken of the fact that about 2,001,000 Jewish immigrants arrived in the United States from 1881 to 1 July 1915. New York city, which contains the largest Jewish community that has ever existed within the confines of a single municipality, has over 1,200 congregations, and 180 religious schools with 41,403 pupils, exclusive of about 14,000 who attend private schools. It has over 100 recreational and cultural agencies, more than 1,000 mutual aid societies, 965 lodges, 193 economic agencies and 164 philanthropic and correctional agencies. Dr. Oppenheim gives a list of nine cities, exclusive of New York city, containing an aggregate of over 9,200,000 inhabitants, of which 900,000 are Jews. New York city is not percentage-wise the most Jewish city. Chelsea, Mass., has a general population of 46,000 and contains 13,000 Jews, or a Jewish population of 28 per cent. Rosenhayn, N. J., has a general population of 600, and contains 300 Jews, or a Jewish population of 50 per cent, while Carmel, N. J., has a general population of 750 and contains 450 Jews or a Jewish population of 60 per cent. Woodbine, N. J., is practically entirely Jewish in population. The same authority computes the Jewish population of America, exclusive of the United States, as follows: Canada, 75,681; British West Indies, approximately, 1,000; Argentina, 55,000; Brazil, 3,000; Cuba, 4,000; Mexico, 8,900; Curaçao, 670; Surinam (Dutch Guiana), 933, and Venezuela, 411. These figures are mere estimates, than which nothing more accurate is at present obtainable; but they are no doubt approximately correct, being based upon partial actual counts; the United States census of 1910 returns of persons giving Hebrew and Yiddish as their mother tongue; the government immigration records, analyses of death rates and reports of competent judges in the various localities, and having also been revised from time to time in the light of criticism and new data.

The first systematic attempt to secure statistics of the Jewish population in the United States culminated in the publication of a report by the Union of American Hebrew Congregations in 1880, giving estimates for each State and city in the Union, and aggregating 230,257 persons. In connection with the national census of 1890 statistical information was gathered regarding Jewish congregations in the United States, and the total number of Jewish communicants was estimated at 130,496, belonging to 533 church organizations. Of these, 316 organizations, having 122 church edifices, valued at $2,802,050, and 51,597 communicants, are to be credited to Orthodox Judaism, while Reform Judaism counted 217 organizations, having 179 church edifices, valued at $6,952,225, and 72,899 communicants. A very large majority of the Jewish immigrants arriving in the United States since 1890 belong to the orthodox wing, and even the figures of 1890 undoubtedly disregard numerous small, often unorganized, orthodox congregations, from whom it was relatively more difficult to secure reports. In 1818 the Jewish population of the United States was estimated at 3,000 only; in 1848, at 50,000. In South America there were several thousand Jews prior to 1650, the greater part of whom were in Brazil, as noted below; but hostile laws and the persecutions of the Inquisition, while driving some to the West Indies, and even as far north as New Netherlands, caused several thousands Jewish settlers in Spanish and Portuguese territories to totally give up their Jewish identity.

It might be said that there were successive tides of Jewish emigration to America from European countries, fairly well separated from each other in point of time. During the first 250 years after the discovery of America the settlers were mainly Jewish immigrants of Spanish-Portuguese stock, with a sprinkling of German, French, English and Polish Jews. German Jewish emigration becomes considerable only about the time of the American Revolution (though evidence is accumulating that it took upon itself larger dimensions and at an earlier period than is commonly believed); it was stimulated by the reactionary measures following the Napoleonic wars and the Revolution of 1848, and began to include emigrants from the Austro-Hungarian Empire, and later on an increasing number of Poles. The Russian-Jewish exodus, which began about 1881, was by far the heaviest of these various currents of emigration, and was itself succeeded or rather joined by a Rumanian-Jewish wave about 1900.

Jews in the Spanish and Portuguese Colonies.— Before the discovery Jews were actively identified with the fate of America, as may be said without reference to the curious and once widely accepted theory that the American Indians are descendants of the lost Ten Tribes. Emilio Castelar, the late Spanish statesman and historian, referring to the coincidence that the Jews were expelled from Spain in the year that Columbus started on his first voyage of discovery — a circumstance noted by Columbus himself in his journal, and repeatedly thereafter commented upon by Jewish historians — makes this observation:

> It chanced that one of the last vessels transporting into exile the Jews expelled from Spain by the religious intolerance of which the recently created and odious Tribunal of the Faith was the embodiment, passed by the little fleet bound in search of another world, whose creation should be newborn, a haven be afforded to the quickening principle of human liberty, and a temple reared to the God of enfranchised and redeemed consciences.

But Jewish aid to Columbus was not limited to Jews accompanying him on his first voyage (including Luis de Torres, a new convert to Christianity, who went as interpreter because of his knowledge of Arabic, and settled before 1500 in America), nor to the circumstance that Columbus carried with him, as aids on his voyage, a sea-quadrant called "Jacob's Staff," invented by a Spanish Jew, and astronomical tables and charts invented by another Jew. The more significant and important fact is that Jewish financiers at the Spanish court were his leading patrons, and advanced the money for his voyage, as evidenced by original account-books still found in the Spanish archives; so

that it was a mere recognition of this circumstance that induced him to address the first two letters (now justly famous, and the earliest copies of printed editions of which command thousands of dollars from book-fanciers) narrating his discovery to those two secret Jewish friends, Luis de Santangel, chancellor of Aragon, and Gabriel Sanchez, royal treasurer. In the light of such facts the late Herbert B. Adams wrote that "not jewels, but Jews, were the real financial basis of the first expedition of Columbus." The revenues needed to fit out the second expedition were secured from the proceeds of the property of which the expelled Spanish Jews were despoiled by the Inquisition at the time of their expulsion from Spain.

In spite of prohibitions upon Jewish settlement in Spanish and Portuguese America, many Jews rapidly emigrated to the New World from among those exiled from Spain and Portugal; occasionally, in spite of the inconsistency involved, in view of those prohibitions, Jews and Jewesses were forcibly transported to America by the state through the agency of the Inquisition. By 1548 Jews are referred to not merely as having settled in Brazil, but as introducing sugar-culture there, which they transplanted from Madeira. The smoking of tobacco had been introduced to Europeans even before 1500 by Luis de Torres, a companion of Columbus. Occasionally, enormous sums of money had to be raised and given to the Crown in order to effect suspension or revocations of prohibitions upon Jewish settlement in the Spanish and Portuguese colonies. But the Inquisitioin and its terrors were introduced even into the New World; hence Jews found it advisable to try to conceal their faith under the cloak of Christianity; and it is principally in the records of the Inquisition that we find proofs of the Jewish practices of many of these settlers — called Marranos or secret Jews — whose trials commonly resulted in imprisonment, frequently in death at the stake, and were at all events followed by confiscation of their property.

In Brazil, Jewish settlers actively aided the Dutch in effecting their conquest of that country, about 1620, after which the Jews *en masse* threw off their Christian disguise and publicly professed their own religion. The Dutch West India Company (q.v.), which obtained the proprietorship of Brazil, had many influential Jewish stockholders, and under their auspices large numbers of Jews from Portugal, Holland and Germany emigrated. Jewish residents are referred to about 1640 as owning the principal sugar-plantations of Brazil, and as heavily interested in the diamond industry then developing there; and there is also evidence that a Jewish literature sprang up in Brazil at this time. Some idea of their numbers may be gathered from the fact that at the time of the surrender of Recife (Pernambuco) to the Portuguese, after its recapture from the Dutch, soon after the middle of the 17th century, that city alone contained about 5,000 Jews, even after many had departed from the city. In smaller numbers they were also established in other cities of Brazil, in Mexico, Peru, the West Indies and at other points. The Dutch capitulation of Brazil in 1654 led to their flight in large numbers from that country, their migrations leading them northward, particularly to the West Indies, and one party of refugees even becoming the nucleus of a Jewish settlement at New Amsterdam (New York city) in 1654. Many, however, remained in the South American colonies, and their Jewish identity was gradually lost under the hostile influences at work. The settlements under Dutch auspices at Surinam, Cayenne and Curaçao are reserving of particular attention.

Of the professing Jewish inhabitants now to be found in these districts, enumerated in the statistics just considered, very few are descendants of the original Spanish settlers, the great bulk of them being comparatively recent arrivals from Germany, Russia and Rumania. Through the munificence of Baron de Hirsch (q.v.) millions of dollars were employed about 1891 in the purchase of land and equipment for the use of agricultural colonies of Russian Jews established under his auspices in Argentina, where several thousand Jews settled, though they have met with only moderate success.

West Indies.— Reference has already been made to early settlements of Jews in Cuba and other West Indian islands. Their settlement in Jamaica was particularly important on account of their numbers and the once great commercial importance of the island. For the latter reason their residence in the Barbados, at Saint Eustatius, Martinique and in the Danish West Indian colonies also led to important consequences. Reference will be made hereafter to this circumstance. Except in Cuba, the decline of the above-named places commercially has caused a decided diminution in the number of their Jewish inhabitants, and to-day the chief interest in the settlements is historical.

Early Settlements in the United States before the Revolution.— There are indications of some isolated and casual arrivals of individual Jews within the present limits of the United States prior to the arrival of the party from Brazil in colonial New York during the Dutch régime, in 1654; these were in Maryland, Virginia, New England and New York. These instances (other than those in the Dutch colony) are purely casual, however, and unimportant, because Jews were not allowed at this time to live as avowed Jews in any of the principal countries that then had colonies in America except Holland. Prohibitions against their settlement were in force (though occasionally ignored) in Spain, Portugal, England, and to some extent in France. Holland alone at this time welcomed the Jewish refugee, to her great commercial advantage; and this "common harbor of all opinions and of all heresies" was, logically enough, destined to establish a precedent for granting religious liberty also in the New World. It is true that in New Netherlands Gov. Peter Stuyvesant (q.v.) was decidedly hostile to the Jewish arrivals, as were also some of the early Dutch ecclesiastical authorities; but thanks to the leveling and humanizing influence of commerce, and to Jewish holdings of stock in the Dutch West India Company, the directors of that company, 26 April 1655, instructed their governor that the "Jews shall have permission to sail to and trade in New Netherlands, and to live and remain there, provided the poor among

them shall not become a burden to the company, or to the community, but be supported by their own nation"; and Stuyvesant was strongly reproved soon after for seeking to thwart these clearly expressed wishes of the company. This grant was commemorated in 1905 by a wide-scaled celebration throughout the country of the "250th Anniversary of the Settlement of the Jews in the United States." The emancipation of Jews was, however, only gradual; certain restrictions were continued through the whole colonial period, though they decreased from time to time, and in importance. Public worship, as distinguished from private religious services, was forbidden them till near the close of the 17th century, as was also selling at retail, and certain political rights of citizenship were also denied; but these restrictions in the course of time were largely removed in practice, so that the adoption of the first constitution of the State of New York, in the Revolutionary period, which established absolute religious liberty, conferred in effect few, if any, privileges on the Jewish residents of that State which they had not already virtually enjoyed. In the interior the number of Jewish residents had grown somewhat by emigration from Germany, Hungary, Poland and also from England, which, under Cromwell, readmitted the Jews soon after the time of their settlement in New Netherlands; but the increase in numbers through immigration was not great till after 1800, for there were few Jews in England, and still fewer who desired to emigrate from there, while emigration to New York and New England prior to the above date from any of the other designated countries was very small.

To Newport, R. I., Jews emigrated very soon after they first settled in New Amsterdam, and Roger Williams (q.v.) in terms included them in his program for establishing a colony where religious liberty would be accorded to all sects and creeds. In the course of time they erected a synagogue here also, as well as in New York, and established a community which contributed most materially to the commercial prosperity of Newport, which city far outrivaled New York for some decades before the Revolution, and until, during that struggle, its shipping interests received a blow from which they never wholly recovered. Here, also, there were some retrogressions during the colonial period from Roger Williams' enlightened declaration of principles; but on the whole, Jews were most prosperous residents of Newport during the latter portion of the colonial period. Even though the colony never was numerous, it embraced such merchant princes as Aaron Lopez and Jacob Rodrigues Rivera, and its fortunes were commemorated, after all the old-time residents had departed, in Longfellow's famous lines on 'The Jewish Cemetery at Newport.' Already in the colonial period Jewish settlers occasionally found their way into Connecticut, also to Boston, and even, it would seem, to Maine, but they were very few in number, and the present Jewish residents of New England date almost entirely from the period of German settlement after 1848, followed by a much more considerable Polish and Russian-Jewish settlement toward the end of the 19th century. About 1820 Maj. Mordecai M. Noah, at one time United States consul to Tunis, developed a fantastic plan for founding a Jewish state for the oppressed Jews of other lands under his own "judgeship," near Niagara Falls, at a place he named "Ararat, City of Refuge," and attempted to tax all the Jews throughout the world for this purpose, but the scheme merely aroused amused attention. Other less ambitious early colonization schemes also were formed.

Pennsylvania, under William Penn's generous plan for founding a home for victims of persecution, attracted Jewish settlers, and in the early decades of the 18th century a little stream of immigration began which brought a number of German, English and Polish Jewish settlers to Philadelphia, whose numbers were increased, after the capture of New York by the British in 1776, by the arrival of Portuguese Jews from that city. The Jewish settlement in Lancaster, Pa., was made shortly before the American Revolution; and there was a small Jewish immigration into Maryland and Virginia, with communities in Schaefersville, Easton, Baltimore and Richmond. Before the close of the Revolution a Portuguese synagogue had been erected in Philadelphia; soon a German Jewish congregation was established there; and about the same period one was erected in Richmond, Va. The laws of Maryland prohibited Jewish settlement, and as early as 1658, Dr. Jacob Lumbrozo, "the Jew physician," figured there as defendant in a blasphemy trial, which nearly cost him his life. Baltimore is of particular interest because it was the only city in the United States in which systematic and long-continued efforts were necessary, subsequent to the Revolution, in order to secure full civil and political rights for Jews as such; they acquired them finally in 1826. Georgia attracted Jews almost immediately after the founding of the colony, parties of both German and Portuguese Jewish settlers having arrived at Savannah in 1733. Some of these were indigent Jews who were assisted to emigrate by coreligionists in England. Off-shoots from this colony migrated to South Carolina before the first half of the 18th century and a congregation was formed in Charleston in 1750. By the time of the Revolution, and for some decades thereafter, Charleston contained one of the most important and prosperous Jewish communities in the United States. In both of these colonies Jews seem to have figured as holders of responsible civil office before the close of the Revolutionary War.

The various places which contained Jewish communities prior to the Revolution have now been enumerated; the total Jewish population embraced in them and in other and more isolated settlements was, as seen, somewhat less than 3,000 in the year 1800.

Interior Settlements.— Space does not permit consideration of the various Jewish settlements and their date of establishment outside of the limits of the 13 colonies. The great majority of Jewish residents of the United States still reside along the eastern coast-line. In time, the westward movement carried Jewish settlers along with it, some into interior cities in the original 13 States, others farther west. In fact during the second half of the 18th century, the Gratz, Franks, Simon and Henry families, in conjunction with George Croghan and

others, did much to open up the territory west of the Mississippi. By 1800 there were several Jewish residents at Pittsburgh. Judah Touro (q.v.), the well-known Jewish philanthropist, went to New Orleans about 1801, and Jews were destined, during the latter half of the 19th century, to achieve considerable political distinction there, though probably there were some Jewish settlers in the Louisiana Territory nearly a century earlier, who were persecuted by reason of the prohibitions in the French "Code Noir" upon Jewish settlement. The first indisputable Jewish resident of Kentucky seems to have settled there about 1808. Ohio appears to have received its first Jewish residents about 1817–19 and after 1830 a considerable tide of German-Jewish immigration flowed toward Cincinnati. In Illinois, which has to-day a considerable number of Jewish inhabitants especially in and about Chicago, the first Jewish settler probably arrived about 1841; and after a couple of years, numbers of German Jews began to come. A little later this same tide reached Detroit, Mich. Texas, while still belonging to Mexico, had quite a contingent of Jewish settlers, who began to arrive about 1821. California attracted a considerable number of Jews at the time of the gold discovery in 1849, and in 1850 they had two congregations in San Francisco. It will be observed that the great majority of Jews in the United States are to be found in the large cities, due largely to prohibition abroad in Russia and Rumania on their owning land and living outside of specified urban sections, which habits the immigrants carry with them to this country.

The reactionary movement that followed the Napoleonic wars in Germany, early in the 19th century, and particularly the barbarous Jewish marriage laws of some of the German states (which, among numerous disabilities from which Jews suffered, were possibly the most objectionable, as they forbade more than a certain number of Jewish couples to live in any district), greatly stimulated German Jewish emigration to the United States from about 1815. After the revolutions of 1848 the political and economic unrest in Germany and throughout Europe caused a particularly valuable and intelligent class of Jewish immigrants to come to this country, including, in addition to Germans, also Hungarians, Poles and Bohemians; while after 1881 the Russian-Jewish exodus assumed large dimensions, and the Rumanian-Jewish emigration began to be heavy about 1900. The volume of these tides can be gauged by comparing the estimates of Jewish population at various periods, already quoted, with these various dates. The forced emigration of recent years from Russia and Rumania has naturally had the effect of bringing to these shores persons less adequately equipped, and who had known fewer opportunities for development and self-improvement than the earlier immigrants, generally speaking, had enjoyed, but their Americanization and progress here have been phenomenal.

The Jews in American Commerce, Industries and the Professions.— Reference has already been made to early Jewish activities in the field of commerce, exhibited in Brazil and the West Indies particularly. It is most important here to note the consequences which followed the dispersion of the Jews throughout so many different lands and districts, resulting in their opening of international and intercolonial trade relations with each other long before those having no such ties of relationship or confidence, and no such common language or commercial abilities, were ready for any such mutual intercourse. The result was that in early colonial days Jews were pioneers and prime promotors of intercolonial and foreign commerce in America, which became not merely profitable, but actually indispensable, for the maintenance of the colonies. The most distant points thus became interlinked by means of their Jewish residents. Every industry and branch of trade engaged their attention. Among persons who were particularly prominent in these fields, besides Lopez, Rivera and Touro, already referred to, were Lewis Gomez and his sons, who were exporters of wheat on a very large scale in colonial New York, early in the 18th century; Hayman Levy, the fur dealer of New York, who had close relations with the Indians and was at one time the employer of the first John Jacob Astor; David Gradis of Bordeaux, who is described as having "controlled the trade of France with the West Indies," in the 18th century, the Gratzes, etc. Aaron Lopez of Newport had a fleet of over 30 vessels shortly before the Revolution, engaged in trade between Newport, the West Indies and Africa. Newport Jews also created the spermaceti industry. Jews were among the founders of the New York Chamber of Commerce and one figures on its seal as a member of the committee receiving its charter from the colonial governor. They were also among the founders of the New York Stock Exchange and ever since that time have been growing in importance in America as bankers, brokers, financiers and railroad magnates. They have been particularly influential in certain lines of trade, including the cotton, tobacco, sugar, coffee, jewelry, leather, hides, meat-packing and clothing industries and department-store activities.

The Jews of America have produced distinguished inventors, lawyers, physicians, rabbis, journalists, scientists, artists, dramatists and professors, filling chairs at all the leading universities, far in excess of the proportional number of their race in the population of the country. On the other hand, the large immigration of unskilled laborers into the United States has led to the employment of thousands of Jews here in every industrial pursuit, frequently at the start under unfavorable conditions.

Jews in the Army, Navy and Public Service Generally.— Prior to the American Revolution there were Jews serving in the militia and in the colonial wars. During the Revolutionary War, their numbers on the army rolls far exceeded their ratio to the total population and a number achieved distinction above the ranks. The New York Jewish congregation concluded, by a decisive majority vote, to disband, rather than to sacrifice patriotism on the altar of religion and many of its members fled to Philadelphia, just prior to the British occupancy of New York. In the South a corps of volunteer infantry, known as Captain Lushington's company, composed principally of Jews, was organized in Charleston in 1779, and fought in the patriot ranks. A number of Jews had figured as signers to the Non-Importation

Agreement of 1765. Among those on the Revolutionary rolls who achieved military distinction are Col. Solomon Bush; Col. David S. Franks, aide-de-camp to General Arnold before the latter's treason, and who was the bearer of the signed definitive treaty of peace, sent abroad by Congress for delivery there; Isaac Franks, who became colonel of Pennsylvania's volunteers soon after the Revolution, after having served long during the war in the ranks; Capt. Jacob de la Motta; Major Nones; Lieutenant Seixas; and Deputy Commissary-General of Issues Sheftall, of Georgia. During our War of 1812 and the Mexican War many Jews served in the ranks and occasionally as holders of important military positions; while during the Civil War the number of Jewish soldiers in the field far exceeded their ratio to the whole population of the country, and they held military positions from brigadier-general down. Hon. Simon Wolf, in his work, 'The American Jew as Patriot, Soldier and Citizen,' has, by means of enormous labor and investigation, collected available names and records of Jewish soldiers in the Federal army and navy, in which he reports that during the Civil War no fewer than 7,884 Jews served, and even these numbers are necessarily incomplete. As the Jews were Union men in the North, so those living in the South generally espoused the cause of the Confederacy and Mr. Wolf's figures include less than 2,000 Confederate Jewish soldiers. The number included by him as serving in the Union and Confederate navies is relatively smaller. A similar list of Jews who served during the Spanish-American War has been compiled ('American Jewish Year Book' 1900–01, pp. 527–622), and includes thousands of names, again exceeding the relative ratio based on that of the total number of persons serving to the total population; and President Roosevelt, years later, felt called upon to compliment them publicly upon their bravery, as indicated by instances of Jews who served under him and were commended for gallantry. Neither have Jews failed to enlist in our navy, for since the latter was instituted, a number of Jews have notably risen from the files to naval distinction, as witness the careers of Captain Etting, Maj. David M. Cohen of the United States Marine Corps, Capt. Levi M. Harby, Capt. Jonas P. Levy and "Commodore" Uriah P. Levy, who at the time of his death in 1862 was the ranking officer in the United States navy, Rear-Admiral Marix and Captain Zalinski. Nor have Jews failed to render the government signal services in private life. Haym Salomon, the associate of Robert Morris and Madison, was broker to the Office of Finance, and it was through his hands that the loans from France and Holland to the infant republic passed; he made heavy advances to the government, which at the time of his death was indebted to him in hundreds of thousands of dollars, which have never been repaid, in spite of repeated Congressional reports in favor of the claim. During the Revolutionary period, there were still others who aided the government's hazardous financial fortunes. Among the most distinguished Jewish patriots of the Revolution stands Francis Salvador, who was a member of the South Carolina Provincial Congress and of the General Assembly of that State. On the other hand there were, naturally enough, also a few Tories among the Jews, chief among whom were David Franks of Philadelphia, who had been British commissary-general, during the French and Indian War, together with his father, Jacob Franks. David Franks' daughter, Rebecca Franks, was one of the leading belles and wits of Philadelphia and New York during the Revolution. A number of Jews have served in Congress, both in the Senate and the House of Representatives, the most prominent among them having been Judah P. Benjamin (q.v.), who resigned his seat in the Senate to become Attorney-General, Secretary of War and then Secretary of State of the Confederate States and subsequently became leader of the English bar. Several Jews have been United States ministers to foreign countries and consuls-general, one of the former, Oscar S. Straus, now being a member of the Permanent Court of Arbitration at The Hague, and having been Secretary of Commerce and Labor under President Roosevelt. Many have been judges in different States, and several have been attorneys-general of their States, and Louis D. Brandeis was appointed by President Wilson as justice of the United States Supreme Court. Several have held the office of governor in American States, and a number have been mayors of leading cities, while many others have held local and State offices. Among those who rendered our government most valuable services in trying financial times are J. & W. Seligman & Co. Several Jews, particularly Moritz Pinner, David Einhorn and M. Heilprin, were active workers for individual liberty in the anti-slavery movement.

Charities and Other Institutions.— The Jewish charities of the United States are unequaled in magnitude and efficiency, compared with the total Jewish population. Naturally enough, the enormous exodus of well-nigh indigent Jews to these shores has greatly increased the burden falling on their more fortunate coreligionists. The amounts disbursed by the organized Jewish charities in New York city alone exceeds $3,000,000 per annum and are of the most varied character. The pure milk depots opened by Nathan Straus, at a heavy cost, in New York — an example which has been followed in other cities — is one of the most effective forms of charitable endeavor and has saved thousands of infant lives. Various Jews of the United States have contributed hundreds of thousands of dollars at a time in individual instances to charitable purposes, best known among whom is Mr. Jacob H. Schiff, of New York, who is credited with observance of the old Jewish practice of giving a tithe of his income to charity. About $5,000,000 were raised by the Jews of the United States for the relief of their coreligionists in the war zone in 1914–18, besides large contributions to non-Jewish war relief funds. The arbitration movement for settling controversies between capital and labor, known as the Civic Federation, has enlisted several Jews in its directorate. The Jewish charities of the United States are being systematized and organized more and more from year to year; aid is being afforded by the annual national conferences of Jewish charities and the Industrial Removal Office has opened offices throughout the United States to

aid indigent immigrants after arrival, to seek locations for them in the interior of the country and thus relieve the congestion of the large Eastern cities. Special efforts have also been made to promote agricultural pursuits among the Jews of the United States, and to encourage industrial activities among them. Of course all the local New York charities deal particularly with recent arrivals, but the Baron de Hirsch Fund, the Hebrew Sheltering and Immigrant Aid Society, the Council of Jewish Women, the Clara de Hirsch Home, the Hannah Lavenburgh Home and the Educational Alliance especially address their efforts toward them. In 1911 the United States abrogated her treaty with Russia, because Russia declined to treat American citizens of the Jewish faith, holding our passports, on a parity with citizens of other faiths, and refused to permit them to enter Russia under the treaty concessions. In Secretary Hay's Rumanian note of 1902 and on other occasions, the United States sought to secure full rights for persecuted Jews abroad. See article JEWISH CHARITIES in this section.

A number of very large mutual benefit and mutual development societies, taking the form of fraternities and Jewish lodges, exist within the United States and do much good, chief among them being the Independent Order B'nai B'rith, Independent Order Brith Abraham, the Independent Order Free Sons of Israel, the Arbeiter Ring and the Independent Order Sons of Benjamin. The recently organized Zionist movement has appealed greatly to many thousands of Jews in America, particularly to the more orthodox and they have organized numerous societies to aid in establishing a Jewish state, in Palestine or elsewhere, for the benefit of the persecuted Jews of eastern Europe. Several Jewish theological seminaries are maintained in the United States, one in Cincinnati, by the reform wing, called the Hebrew Union College, sustained by the Union of American Hebrew Congregations, which was founded by Isaac M. Wise, and of which Dr. K. Kohler is president, and an orthodox seminary in New York called the Jewish Theological Seminary, of which the late Dr. Solomon Schechter was president. Besides the Union of American Hebrew Congregations, there exists an "American Jewish Committee," with branches in the various States, in which the orthodox Jews are more fully represented; for a number of years Judge Mayer Sulzberger of Philadelphia was president and he was succeeded by Louis Marshall of New York city. A Rabbinical Conference called together by Dr. K. Kohler in conjunction with Dr. I. M. Wise and Dr. S. Hirsch at Pittsburgh in 1885, adopted a Declaration of Principles for the Reform wing in American Judaism. A "Jewish Publication Society" was founded in 1888 and has issued many Jewish works, and the 'Jewish Encyclopedia' in 12 volumes was issued in America, with a new Jewish Bible translation as a close second, the most important Jewish work published in modern times. Numerous Jewish newspapers are issued, including a number of dailies in Yiddish.

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MAX J. KOHLER,
Formerly Corresponding Secretary, American Jewish Historical Society.

22. PRESENT STATUS OF THE JEWS THROUGHOUT THE WORLD. With the voluntary and enforced emigration which marks the Jew in every age, and to which the past century was as little an exception as the present bids likely to prove, it is difficult to regard the status of the Jews as fixed for any length of time. The population is as shifting as conditions. Within the past three and a half decades there has been a Jewish migration of fully 2,500,000 from eastern Europe to western lands, and across the sea to North and South America, Australia and South Africa. Even if the new environment be permanent adaptation takes time, and one must be prepared for inequalities in many ways. Yet it is possible to give an accurate and fairly comprehensive sketch of the present-day status of the Jews in every land.

Australia.— In the gradual settlement Jewish merchants and men of affairs took a prominent part, and as a result they have entered largely into colonial life, and form an important factor in its prosperity. Their population is about 20,000, with the greater number in New South Wales (7,000), Victoria (6,000), New Zealand (3,000), with communities in South and West Australia, Queensland and Tasmania. The discovery of gold in 1892 drew emigrants to West Australia, and a flourishing Jewish congregation exists in Perth, although it is liable to decline, if the mines cease to attract, as happened in Coolgardie, where the synagogue built in 1896 was sold for a Masonic

hall, owing to lessening numbers. Throughout Australia, in most of the capitals and many of the smaller towns, Jews have been mayors; the agent-generalship of New South Wales has been held by Sir Saul Samuel and Sir Julian Salomons. Many have sat in the various Parliaments, and some have been colonial ministers; for example, V. L. Solomon (1899), Premier of South Australia, and Sir John Vogel, long Premier of New Zealand. In Adelaide J. Lazar, J. M. Solomon and Lewis Cohen (1883–84) have been mayors; M. Lazarus has been president of its Chamber of Manufactures. In Melbourne Edward Cohen was three times mayor, E. L. Zox being his successor in Parliament. I. A. Isaacs was attorney-general (1894–99), his brother J. I. was a member of Parliament (1894), other members being N. Steinfeld of Ballarat, Joseph Steinberg of Bendigo, F. J. Levien of Geelong, Theo. and B. J. Fink and D. B. Lazarus. In Sydney the name of J. G. Raphael is preserved in several of its streets; he with Charles Collins, L. W. Levy and J. J. Cohen occupied official positions; George J. Cohen, Richard Gotthelf and other Jews were presidents of the Chamber of Commerce; H. E. Cohen was one of the judges of the Supreme Court. In 1905 J. J. Cohen, Daniel Levi and A. E. Collins were members of the legislative assembly. It must be added that intermarriages have been very frequent in Australia, particularly in Sydney. Exceedingly handsome synagogues are in Sydney and Melbourne, and smaller ones elsewhere. The better class of Jews are well represented in professional and mercantile life. In 1912 Arthur M. Myers was called to the New Zealand cabinet, and Hyman Herman appointed government director of Geological Survey of Victoria. In 1913 John Monash of Victoria made brigadier-general; 1916, major-general in the European War.

Africa.— It is not easy to give exact statistics as to the Jews in Africa, but to follow the figures given by Isador Loeb, about 25 years ago their numbers were then 468,000 — the population of the different localities being Abyssinia, 200,000 (a palpable exaggeration); Algeria and Sahara, 43,500; Cape Colony, 1,500 (since then increased probably to 50,000); Egypt, 8,000; Morocco, 100,000; Tripoli, 60,000, and Tunis, 55,000. In Abyssinia exists a colony of Jews called Falashas, "emigrants," who have other appellations in different parts of the country. Their origin is obscure, but they preserve Jewish customs. Agriculture is their chief occupation. They are ignorant of Hebrew, but preserve the Mosaic religion based upon the Ethiopic version of the Pentateuch. They are found in various districts of Abyssinia and have had an eventful history. In Algeria, the condition of the Jews was greatly improved by the French conquest, and their religious status is on a par with the Jews of France. The consistory of Algiers has five congregations and 14 outlying communities; Constantine's includes 21 communities and Oran 38. In 1891 Leroy-Beaulieu gave a total Jewish population of 47,564. Practically due to M. Drumont and the French Clericals anti-Semitism raged in Algiers for some years, but has grown less violent. Of the Jews of Algiers a recent census showed a large proportion followed handicrafts. It has 19 synagogues, 13 being private. In South Africa the Jewish population may be stated to have reached nearly 50,000, including the Transvaal, 25,000; Cape Colony, 22,000; Natal, 2,000. Cape Town has four synagogues, and they are scattered in every district, the large influx of Russians being noticeable. Kimberley's synagogue has a memorial tablet to Jewish officers and soldiers who fell in the Anglo-Boer War. Natal has two synagogues. Jonas Bergthal (1820–1901) was a member of the assembly, while in the 90's A. Fass and M. G. Levy held official positions; in the Orange Free State Isaac Baumann was twice mayor of Bloemfontein; M. Leviseur and W. Ehrich have had civic honors. In the Transvaal the Jews enjoy a large share of prosperity, and among the men of prominence can be mentioned Samuel Marks, the Barnatos, Neumann, Albu, Eckstein, Alfred Beit. In the Boer War about 2,800 Jews fought on the British side and many were in the Boer ranks. Jewish services are held in Rhodesia, where communities are growing — Buluwayo has a synagogue, as well as in Bechuanaland and in Portuguese territory in Lourenço Marques. There are numerous Zionist societies, and the religious training of the young is steadily improving.

In Egypt, according to the census of 1907, the Jewish population numbers 38,635, of whom half are natives, half strangers. The condition of the Jews has been greatly improved of late decades owing to the work of the Alliance Israélite Universelle (q.v.), which established many schools. Cairo has 10 synagogues in all, with 10,000 Jewish inhabitants. Morocco had in the 80's of the last century about 40,000 Jews, although widely varying estimates are given. They are of two classes: the descendants of the early settlers, who are found mostly in the Atlas and hilly section; and of those who sought shelter in Morocco from Spain and Portugal. The former, speaking the Berber, are antagonistic to modern ideas; the latter form a progressive settlement, many speaking Spanish. In the ports they are fair linguists, are active in business, particularly in Mogador; and are employed by the foreign consulates. With the exception of a few under foreign protection all suffer from Moorish injustice, and are confined in the Mellah, or Ghetto, of each town. Such treatment has not been without its effect in making a spiritless people, who live in poverty, largely due to early child-marriages, while superstitions abound. The Jews of Tripoli number about 20,000 and share the superstitions of their environment. They have 18 synagogues, small and large, and are engaged in commerce and trade. Nearly 5,000 live in neighboring towns. Tunis, a dependency of France since 1881, grants equal privileges to Mohammedans and Jews — the latter number about 50,000 in the whole district — 30,000 of whom are in the city of Tunis. They are divided into two classes: the Tunsi, descendants of the first settlers; the Grana, descendants of the exiles from Spain and Portugal, and of Jews of Leghorn (Gorneyim). There are 27 synagogues, and while a few of the people are financiers and professional men, the great majority are petty traders. The other 12 towns in the regency contain about 12,000 Jews. Dur-

ing the European War (1914–18) a Zion mule transport corps was formed at Alexandria composed entirely of Palestinian refugees.

Asia.—The Jewish population approximately is thus divided: Asiatic Turkey, 200,000; Asiatic Russia, 115,000; British possessions, 20,000; Persia, China, etc., 30,000; total, about 365,000. They vary in their political status according to the political complexion of the countries which hold sway — Turkey, Russia or Great Britain. Their status has gradually improved — Turkey since 1876 has instituted a close approach to civil and religious freedom, and has frequently made Jews public officials. In Yemen, Kurdistan and Persia their condition continues less favorable. In Asia Minor, half of whose Jewish population reside in the vilayet of Smyrna, they are active petty traders and handicraftsmen; schools, including an agricultural one, and workshops, are making the outlook bright for the future. In Asiatic Russia, the Caucasus, some of the Jews (who numbered about 78,000 in 1918) have become Mohammedans and Christians, and present strange types to the ethnologist. The Mountain and Georgian Jews present widely different traits. A curious sect are the Sabbatarians, who use Russian, not Hebrew, in their prayers, but conform to many Jewish customs. Siberia had 58,730 Jews, according to census of 1918. They have had to endure many exactions and their position is very anomalous; yet they are welcomed because of their energetic business methods. In Bokkara are about 5,000 Jews who wear a special badge and dwell in an enforced Ghetto. The cotton trade is largely in the hands of the Jews. In the British possessions Aden has 2,500 Jews, who have almost monopolized the trade in ostrich feathers. At least 25,000 reside in British India, the greatest number in Bombay, where the Sassoons have done so much to educate and uplift the poor. In this city, too, can be found the Beni-Israel, a sect of black Jews, of whom about 5,000 live in Bombay and 2,000 elsewhere in the Bombay Presidency and about 2,500 in Calcutta. They speak the Mahrati and were originally oil men or oil pressers, as their native name implies. Many are educated men and have entered the professions. They have several synagogues, some very handsome. In Calcutta the Jews number many prominent men in trade. Although the vernacular of the rich Jews is Arabic, their habits and dress are European. Afghanistan has fully 40,000 Jews in the chief cities. They pay a war-tax, which exempts them from military service. They live in special quarters in the larger towns. Persia treats its Jews with continued exactions that have broken the spirit of the people, who engage perforce in the lowliest avocations. Teheran has 5,500; Ispahan, where their condition is a little better, about 3,700. China has flourishing communities of foreign Jews at Shanghai and Hongkong, who deal largely in opium and cotton. A native body of Jews reduced to 100 in number by the census of 1900 exists in Kai-Fung-Foo, in the province of Honan. Since 1870 their synagogue has been in ruins, and poverty has compelled them to sell their possessions, sacred and otherwise. Their origin is obscure. They are probably from Persia and have interesting traditions. In 1916 Palestine had probably 75,000 Jews, of whom 15,000 are in rural settlements, with Jerusalem, Hebron, Safed and Tiberias favored places of residence. The agricultural colonies show fair progress. Five hundred thousand boxes of oranges came from Jewish plantations at latest estimate. The wine trade is flourishing. The general credit and the schools, due much to the Hirsch organization, are similar helpful agencies. There are in efficient working order reforestration colonies, an industrial colony of Yemenites, an agricultural experiment station and a system of plant exchanges between Palestine and America. Despite an occasional locust plague and the disadvantageous results of the European War, the status of the Jews in Palestine is hopeful. The successive appointments of Messrs. Morganthau and Elkus as ambassadors to Turkey have been a distinct benefit. Recent developments are discussed under PALESTINE AND ZIONISM.

Europe.— In Austria, with the dawn of freedom in 1860, followed by the constitution of 1867, the status of the Jews began to improve, several were returned to Parliament and Baron Anselm de Rothschild was made a peer; in 1903 there were three Jewish members of the House of Lords, the brothers Gomperz and Baron von Oppenheimer, while many are university professors in various lines, with a full quota of journalists, musicians, dramatists, scientists, scholars. Vienna in 1900 had 146,926 Jews, with a large proportion of conversions to Christianity, 559 in 1900 and 617 in 1904, due doubtless to anti-Semitism in the capital. They form one community, whose receipts in 1903 reached 2,243,449 kronen, expenses 2,147,506, and which is particularly rich in educational and charitable institutions. Belgium has about 14,000, with larger communities at Brussels and Antwerp. In the latter city they number about 9,000. One of their principal industries is diamond cutting, which occupies about 750. Brussels has an important Jewish community, with many charitable societies and representatives in the arts and learned professions. Bohemia imposed some mediæval exactions as late as 1849, and even in later years there have been occasional Czech outbreaks, but the general prosperity has been uninterrupted. Prague has the largest Jewish community (20,000), while in about 150 of the smaller towns are included 50,000. In Bosnia 4,000 out of the 7,500 Jews reside in Sarajevo, where many are lawyers, physicians and public officials. Bulgaria has 30,000, divided into 35 communities, the largest being Sofia, Rustchuk and Philippolis. Since the Alliance Israélite has opened its trade schools, trading has been supplemented by handicrafts. The general prosperity has been somewhat affected by popular hostility (see JUDAISM — ANTI-SEMITISM) which promotes emigration to Turkey in Asia. Owing to their bravery in saving Sofia from destruction by the Turks in 1877, Prince Alexander decreed in 1879 that the fire brigade should be enrolled exclusively from Jewish citizens, with a place of honor at all processions. Denmark has 3,600 Jews, Copenhagen having the largest community (500), and include varieties of occupation from trade to agriculture; in the latter calling are landed proprietors and peasants. There are many intermarriages with the non-Jewish population. It is only since 1849 that complete civil and religious liberty was proclaimed.

France, with its 150,000 Jews, of whom about 100,000 live in Paris, offers an example of practical assimilation, for despite the existence of a certain social prejudice, many of them occupy prominent positions in every walk of life, in literature, art, science, law, the army, and in no other country do they include such an array of names known beyond their own country. The patriotism and generosity of the wealthier representatives have done much to strengthen the Jewish status, which has gained morally by the Separation Law. While the Jews of France are conservative, a reform movement has just begun in Paris, whose supporters are sanguine of success. Paris has an extended number of Jewishs institutions, religious, benevolent and educational, with five large synagogues and many smaller ones. In 1912 M. G. Lippman was elected president of the French Academy, Ferdinand David Minister of Commerce and M. G. L. Klotz reappointed Minister of Finance.

Great Britain.— The 175,000 Jews in London, forming the bulk of their number in the British Isles (estimated at 275,000), have attained the fullest civil and religious liberty, and their favorable condition has resulted in a fair, if not remarkable, display of talent in art, science, literature, the law and political life, while they have done more than their share in colonial expansion. They have held the office of mayor in a number of cities, including London, have entered Parliament where they belong to different parties, such is their individuality. Their influence is such that again and again have imposing meetings been held by prominent Christian divines and leaders throughout England to protest against the spirit of persecution in Rumania, Russia and elsewhere. Within the past year or two the question of immigration has aroused much debate and ill-feeling, a new Alien bill was passed, whose real purpose was to check Jewish arrivals from Russia, not from any anti-Semitism, but a desire to prevent further overcrowding in the east end of London. During the war in South Africa fully 1,000 Jewish soldiers participated. At present S. Alexander is professor of mental philosophy and E. Schuster of physics in the Victoria University, Sir Philip Magnus is one of the chief authorities in technical education, Israel Abrahams is reader in rabbinics at Cambridge University, where lately C. Waldstein was Slade professor of fine arts. Solomon Hart, S. J. Solomon and Simeon Solomon are prominent names in art, while S. L. Lee, I. Gollancz, Claude Montefiore, Israel Zangwill are known in literature. The Jews of England have secured their present status largely because of the vigor with which they fought for their rights, and won public opinion in their favor, while their splendid record in philanthrophy with names like the Rothschilds, the Goldsmiths, the Mocattas, the Montefiores, has done much to add to their fame. In commerce and finance they number a large number of important firms in London, Manchester and Liverpool. The condition of the Russian element in the chief cities is more or less a problem, whose solution requires patience and forbearance. The younger element soon becomes English, but the older transplants to English soil the Ghetto atmosphere — a phenomenon which is seen all over the world. In 1902, according to official data, the sum of £111,639 was spent by London Jewish charities. Of the Russian and Polish Jews in London in 1901, amounting to 28,574 males, 24,863 females, it was found that 24,164 males and 5,358 females earn their own living in a great variety of trades. The Jewish population of Ireland in 1901 was given as 3,771, the bulk residing at Dublin, 2,200; Belfast, 450; Cork, 400. Russian immigration is adding steadily to their numbers. Sir Otto Jaffe was lord mayor of Belfast (1899–1900), high sheriff a year later, and is now justice of the peace for that city, and counsel for Germany. Lewis Harris and his son, A. W., were aldermen of Dublin; Trinity College, Dublin, has graduated many Jewish students. Scotland has almost its entire body of Jews in Glasgow and Edinburgh, about 9,000 in all; there are congregations in Dundee, Aberdeen and Greenock. Recent immigration has built up the Scotch communities. Glasgow has 7,000 Jews, with three congregations, with several benevolent and educational societies. Two of their representatives are justices of the peace. Herbert Samuel was appointed Postmaster-General of Great Britain, and Edwin Samuel Montagu member of the cabinet, in 1915; Sir Rufus Isaacs, Lord Chief Justice in 1913, made Lord Reading more recently.

In Germany's various sections before the war of 1914, the Jewish status was distinctly favorable, after centuries of conflict which has not wholly died away. Baden includes 27,000 Jews in 15 rabbinical districts, who enjoy equal rights with the other inhabitants. Bavaria numbers 55,000, with a long list of names who are adding to its strength in trade and industry and scholarship. Some are members of the Bavarian Diet, others are prominent in law and the learned professions. Fuerth has a number of Jewish industrialists in mirrors, bronzes, toys and hardware, leaders in their line. In Nuremberg, Fuerth and Bamberg they control the hop business; the cattle trade is entirely in the hands of the country Jews. In the duchy of Brunswick about 2,200 reside. In Elsass-Lothringen, despite the emigration of many Jews after the annexation, about 37,000 reside in the province, chiefly in Strassburg, Mühlhausen and Colmar; they are largely manufacturers and merchants. Hesse-Cassel has 18,500; Hesse-Darmstadt in its three districts about 26,000, with numerous educational and charitable institutions, and with every calling open to them. Prussia in 1900 had a Jewish population of 392,332. Of its chief cities, Berlin has 19 synagogues and numerous educational and benevolent institutions, with a brilliant coterie of prominent names in all the arts and professions, trades and industries, many being authorities in their callings, and prolific contributors to art, science and literature. There are fully 110,000 Jews. Breslau has about 25,000 and here, too, in the various professions, particularly medicine and the natural sciences, they number very eminent names. They are in every trade and manufacture, and hold many chairs in the university. Hamburg has about 20,000. Within recent years it has had some prominent representatives in different fields — with many institutions, such as schools, hospitals and syna-

gogues. Hanover has a prosperous community of about 5,000, who number leaders in commerce and trade. Saxony, where the Jews were late in securing complete freedom, had in 1904, 12,196, 7,000 being in Leipzig and 3,059 in Dresden; in both cities they are identified with the chief industries. In 1900 the Jews of Wurtemberg numbered 11,916. The criminal status of the whole population in that year was 0.089 per cent; of the Jews, 0.083. Many charitable institutions abound, and there are handsome synagogues in the chief cities. In Stuttgart in 1903 there were 3,015 Jews, who include manufacturers, lawyers and merchants of note, while they are members of the city Superior Court and of the faculty of its polytechnic and its conservatory of music. In 1912 Dr. Harburger of Munich University was made president of Senate of Supreme Court, Max Liebermann Senator of the Academy, Judge Wolfsthal of Ratisbon, Attorney-General. Greece has 10,000, with about 4,000 in Janina and Prevesa in Epirus, including Corfu, 4,000; Larissa, 2,750; Athens, 400. In Athens the majority are of Levantine-Spanish descent, and are peddlers or artisans. In Corfu they are exporters and manufacturers. There are no restrictions on their progress in Greece under the present government. Although it was not until 16 May 1896 when Hungary declared Judaism a "legally recognized religion," the Jews have long attained prominence in varied lines of political, industrial, scientific and artistic development, and contributed a long list of notable names. They have founded important institutions for religion, charity and education, their new synagogues are among the handsomest in the Old World, and in their chief communities, Budapest (166,198), Szegedin (5,863), Temesvar (5,916), Presburg (7,110), they are prominent in every calling. In 1913 Budapest had a Jewish burgomaster. In 1912 the government created two chairs for the Talmud at the Budapest University.

In Norway, where Jews have been allowed to live since 1851, their present number is hardly a thousand, who are engaged exclusively in industrial pursuits and are on the whole prosperous. The majority reside in Christiania, with the rest in Trondhjem and Bergen. Rumania's treatment of the Jews, marked by constant exactions and neglect of the provisions of the Treaty of Berlin (1878), has not only reduced the Jewish population to less than 225,000, but made their condition pitiable in the extreme. Mediæval conditions have led to wholesale emigration — at least 80,000 having left between 1898 and 1905, chiefly to the United States; and unless exactions cease their numbers are likely still further to decrease. Much poverty exists among the Jews, although there is a small wealthy class. From recent data as to the Jews of Russia, it appears (1897) that they number 5,189,401 or 4.13 per cent, a figure which has been reduced by steady emigration from cities large and small to all parts of the world. In the Pale of Settlement reside 93.93 per cent of the Jewish population, or 11.46 of the total population. They are massed together most densely in northwest Russia and Poland, where they form 14 per cent of the entire population, figures which throw light on recent outbreaks. A number of agricultural colonies, 301 in number, including 10,721 families, with 68,959 population, who occupy 100,107 deciatines of land, exist in a number of governments, but these are necessarily limited. In 1898 the number of artisans in the Pale and Poland reached 500,986, or 13.2 per cent of the total Jewish population. Technical training having been only recently introduced, old-time methods of learning prevail, save in some of the larger cities. Owing to keen competition the income of the Jewish artisans is insufficient to support their families, and extreme poverty with its attendant unsanitary surroundings prevail. In addition, in the Pale and Poland are 105,000 Jewish day laborers, about 2 per cent of the entire Jewish population. Without the Pale, in the interior of Russia (1893) were 1,948 Jewish workshops compared to 24,020 belonging to non-Jews, being most numerous as tailors and metal-workers. Some idea of the great poverty in the Pale may be gathered from the number of loan associations, of homes of shelter for the transient poor, 226 in all, and similar institutions, of medical committees and hospitals, and of other charities for their benefit. From 1899–1918 the Jewish emigration to the United States, chiefly Russian, reached 1,548,594, due to political as well as economic conditions. It is not necessary to dwell upon existing legislation regarding the Pale, and until an enlightened government holds sway no permanent change for the better is possible. Despite unfavorable circumstances, the scholarly abilities of large numbers of the Russian Jews are evidenced by the Hebrew Renaissance among them, and the enthusiasm with which liberal studies are followed by thousands of young men and women. In literature, journalism, archæology, medical and natural science, jurisprudence, art, they show much activity. Old-time rabbinical education holds its own among the great majority of the people, while early marriages powerfully promote poverty. In 1899 the percentage of Jewish students to total number in the Russian universities was 10.9. According to the census of 1913, the Jews of all Russia number 6,946,090 souls, or 4.2 per cent of the entire population, and fully one-half of all the Jews in the world. Yet they constitute 15.6 per cent of the residents in urban centres. A striking illustration of Jewish concentration in towns is furnished by Berditscheff, where they number 41,617, or 78 per cent of the total population, or by Warsaw, with 219,128, or 34.3 per cent. The birth rate of 1877 was 35.43 per 1,000, being less than other sections, except Protestants, 34.73. The rate of illegitimacy in European Russia was small — 5.4 per 1,000 births; among the Catholics 36. In 1897 the Jewish death rate was 17.82 per 1,000 as against 34.28 for orthodox Christians, and 22.76 for Roman Catholics. The predominant language among the Jews is Yiddish, 96.90 per cent of the entire population using that medium. For insanity the Jewish figure (9.84 per 1,000) is greater than that of the Poles and Russians (8.51 and 9.54), but much less than the Letts (13.75), and the Germans (15.04). The May laws of 1881, which restricted the free movement of the Jews outside the Pale of Settlement (Russian Poland and 15 Russian provinces), set the stream of emigration into permanent motion toward all

parts of the world. In one year alone (1904–05), in consequence of the Russo-Japanese War and internal disorders, 92,388 Jews left the country. It is estimated that in the past 20 years 1,123,000 have emigrated from Russia — more than one-fifth of the whole of Russian Jewry. (Consult Dr. Arthur Ruppin's work issued by the German Bureau for Jewish Statistics. Berlin: Jüdischer Verlag 1906). In regard to age distribution the Jews have a higher percentage of persons under 10 years of age, owing to lower infant mortality, but in consequence of this excess of children 100 Jews have dependent on them for support two more than the orthodox Christians, three more than Catholics and Mohammedans, and six more than Lutherans. In Finland a movement took place in 1906 to give the Jews equality with the rest of the population. Bill granting full rights became a law 15 Feb. 1918. They are found at Helsingfors and a few other places, and suffer from many political restrictions. Serbia, since 1889, has abolished all anti-Jewish laws, but the Jews take little part in public affairs until their equality is more generally recognized by the people. They number about 7,500, chiefly in Belgrade (4,500), including a few lawyers, physicians and engineers, with some state officials. Spain, whose early settlement by the Jews is attested by a tombstone unearthed in Adra, with a Latin inscription, which dates back to the 3d century, has within recent decades opened her territory to the Jews, very few of whom have settled on its historic soil. In 1858, under General Prim, the edict of expulsion was repealed, and in later years Senor Lapuya headed a movement to invite Russian emigrants to Spain, but without more than a limited response, although in time the settlers may be larger in number. Madrid has about 25 families, who hold holiday services — they came from Tunis, Mogador, Lisbon, Alexandria, etc. In Toledo, where but a few reside, the government ordered the restoration of El Transito (see SYNAGOGUE), formerly a Jewish place of worship, but which had been converted into a church. Seville had (1905) 200 Jewish families, the majority poor, being emigrants from Tangier and elsewhere in Africa. In this connection the Jews of Portugal may be mentioned. In 1903 they numbered 500 persons, the majority being merchants and shipowners. According to the constitution of 1826 they are not allowed to hold service save in places not bearing the signs of a public house of worship. Lisbon has 400 Jews, mostly natives of Gibraltar, Morocco or the Azores. A number are prominent in science, letters and the arts. There is one communal synagogue (1902), situated in an enclosure, and without any outward sign. The cemetery dates back to 1801. Switzerland, where civil and religious liberty exists apart from a statute (1903) declaring illegal slaughtering of animals according to the Jewish ritual law, has fully 20,000 Jews, with congregations in the larger towns, Zürich being the most important, with 5,500 Jewish population, as international in character as the city itself. In the Cantoral Council are two Jewish representatives and at the university polytechnic and gymnasiums are several Jewish professors and privat-docents. The Jews are mostly merchants, excluding the Polish and Russian immigrants who begin as peddlers but soon enter other callings. The canton of Bern has about 2,500, with many Jews as university professors. Basel has about 340 families.

Sweden grants full civil and religious freedom to the Jews, barring a few privileges which neither they nor any other non-Lutherans can obtain. There are synagogues in all of the larger cities, with a total Jewish population of fully 5,000. Turkey in Europe and Asia had (1914) 260,000, of whom the largest number are in Constantinople, Adrianople, Salonica. The condition of the young people has improved owing to the spreading of schools, technical, agricultural and religious, by the Alliance Israélite, with 6,651 children in European and 6,299 in Asiatic Turkey. The Jews speak usually a mixture of Spanish and Hebrew, often a Judæo-German dialect, and rarely Turkish, although they are making strong effort to speak the latter more generally. They enjoy the same privileges as all "rayahs," non-Moslem subjects. According to the constitution of 1876 the equality of all Ottomans is proclaimed before the law and in the short-lived National Assembly of the following year several Jews were among the members. The Jewish administration, before the European War, ratified by the sultan in 1865, consisted of three councils, a national assembly of 80, a temporal council of 7 lay members and a spiritual council of 9 rabbis. Of the various Turkish communities, Salonica is the largest and most picturesque. While the majority are poor and engaged in all kinds of handicrafts and petty trade, the city has, with the professions represented, 37 synagogues, with numerous charitable institutions. Constantinople contains among other callings, some wealthy wholesale merchants and bankers. The only glass works in Turkey is carried on by a Jewish manufacturer. The schools of the Alliance Israélite teach many handicrafts, but their graduates become largely accountants in financial institutions. The civil list in the Ministry of Public Instruction and the consular offices includes a number of Jews, 20 of whom are physicians and druggists. The Jews of Russia, Poland, Galicia and Rumania suffered severely in the European War, both in numbers and otherwise.

North America.— With increasing Russian emigration within recent years, Canada's Jewish population must reach at least 75,000, with 25,000 in Montreal, 5,000 in Manitoba, 8,000 in Toronto and 10,000 in Quebec. There are several agricultural colonies in the Northwest, due to the gifts of Baron de Hirsch (1892), in a section called Assiniboia at three settlements. Jews have sat in the Canadian Parliament, Mr. Nathan of British Columbia being the first to attain the honor. In 1845 there was only one synagogue in all Canada; now they exist in Toronto, Victoria, B. C., Hamilton, Winnipeg (2), Halifax, Saint John, N. B., Ottawa, London, Quebec. It is of interest to note that Christian sympathizers in Montreal, headed by the Anglican bishop, contributed to the fund in aid of the Russian refugees. In their occupations the Jews are indistinguishable from other citizens.. United States — The history and development of the American Jews have already been described (see JEWS IN AMERICA); it only remains to gather a few

additional facts and note further tendencies. In the effort to promote education, uplift the destitute, and Americanize the incoming masses of emigrants, the lines of demarcation between reform and orthodoxy seem to be becoming fainter, and a spirit of conservatism, free from fanaticism of either extreme, appears to be growing. Greater interest is being shown in agricultural and technical education, which will help in turning thousands to the soil, but divert thousands of the young to the arts and handicrafts. More energy, too, is being displayed in distributing emigrants from the congested centres of New York and elsewhere, although with increasing immigration the results are comparatively slight. Recent arrivals are of a better class on the whole, and include many who have ample resources. In the larger cities, however, the general character of the Jews is being unconsciously changed, owing to the gradual elimination of the distinctively American, English or Portuguese type, and the appearance in every line of the Russian, who competes keenly with the less numerous German. But this is only a reflex of American phenomena in general, as the emigrant outnumbers the native, or appears to do so by reason of his aggressiveness in securing a foothold. The skilled Jewish laborers in New York city number (1915) 350,000; the great majority belong to the United Hebrew Trades; two-thirds are Russian, being found as well in the silk mills of New Jersey, the machine shops of Connecticut and jewelry factories of Rhode Island. In 1903 in the New York State prisons out of 9,820 prisoners 257 were Jews; in the city prisons (1904) out of 3,251, 479 were Jews; in the Blackwell's Island workhouse for year 1904 were 1,036 Jews out of 19,520 prisoners. More than 80 per cent of the students in the City College are Russo-Jewish emigrants or the children of Russian Jews. The chief lines of commerce in which the Jews in New York are thus given, in the order of importance: Clothing manufacturers, jewelry, jobbers, wholesale butchers, liquor dealers, leaf tobacco jobbers, cigar manufacturers, cloak manufacturers, chamois importers, leather and hides, manufacturers of overshirts, watch importers, artificial flowers and feathers, furs, undergarments, lace and embroidery, white shirts, hats and caps. Immigration since 1904 has largely increased these figures. In 1911 Jews occupied 2,984 farms with 30,000 persons engaged in agriculture, and two large schools, at Woodbine, N. J., and at Doylestown, Pa. The land value of these farms according to data of 1912 reached $22,194,335, and equipment value of $4,166,329. In 1905 the real property of synagogues and Jewish charitable institutions in New York city, exempted from taxation, was valued at $13,558,100. With the gradual settlement of the Far West they are found among the pioneers in Alaska and the far Western plains. The Jewish population in the United States in 1918 was 3,390,572.

South and Central America.— While Jews are to be found in all the more prosperous cities of the South American continent, their numbers are very small, except in Argentina, where agricultural colonies exist, swelling the Jewish population to 110,000. Brazil has 4,000, and there are about 8,000 scattered in the other states. A few are found in Panama, with an old cemetery; there is a small community in the City of Mexico. The Dutch colonies have supplied most of the 300 Jews in Dutch Guiana and Venezuela. Jews of German descent are the leading jewelers at Lima and Santiago. The only synagogues (2) are in Buenos Aires; in Argentina many of the Russian colonists have found their way to the chief cities. The imperial purchase of land for colonization by Baron de Hirsch included over 17,000,000 acres. Their present condition is fairly reassuring, but they require continual support and they cannot be regarded as entirely successful. Moiseville, the oldest of the colonies, in the Santa Fé province, is the next prosperous, with 1,200 settlers, and a good outlook for the future. Mauricio, in the province of Buenos Aires, is less favorably situated and has 1,100 colonists. Clara, in Entre Rios province, is the largest, with 5,000 souls, who dwell in 19 villages. The future success of these colonies will depend on the independent character of the colonists. The equipment is thorough and has cost millions. In Santiago, Chile, there are many Jewish merchants of prominence but no organized congregation.

West Indies.— Jewish activity in these islands was early displayed and is still continued, although fluctuating from time to time, and declining sadly in some places. At Saint Thomas, once the seat of an important Jewish community, hardly 50 survive. Jamaica shows a similar decline, with its diminished commercial importance. Its former historic settlements at Spanish Town, which had two congregations 60 years ago, Montego Bay, Falmouth and Lacovia have passed away. Kingston has one fair-sized congregation since the merger of the two existing in 1900. The Jews hold positions of prominence in various lines but lose many of their best material through emigration to England or the United States. The hurricane of 1831 brought about a decline in the prosperous Barados community whose numbers have dwindled to hardly 20. Curaçoa has an influential body numbering about 1,100 in two congregations, including lawyers, physicians, druggists, merchants, members of the executive and colonial councils, judges, bank presidents and officers in the militia. The Jews of Surinam number 1,500 and occupy a prominent position, being large property-owners.

Bibliography.— For the present status of the Jews, see Jewish Year-Books, issued annually in London and Philadelphia, as well as annual reports of Union of American Hebrew Congregations, Deutsche Gemeindebund, Alliance Israélite, Anglo-Jewish Association, American Jewish Historical Society and similar societies. E. Adler's 'Jews in Many Lands' (Philadelphia 1905) throws light on the condition of the Jews in the East and in scattered communities.

ABRAM S. ISAACS,

Professor of Semitic Languages, New York University.

23. ALLIANCE ISRAÉLITE UNIVERSELLE. An organization with headquarters at Paris, France, having for its purpose the protection, improvement and education of the Jewish people. Its activities have been directed, in the main, toward safeguard-

ing and educating Jews in eastern Europe, Asia Minor and North Africa. During the first half of the last century several attacks made on the Jews by fanatical mobs, owing chiefly to false charges of ritual murder, evoked fervent appeals for organization, to which apparently little heed was at first paid. Public sentiment began to crystallize after the Damascus blood accusation in 1840. A temporary cessation of difficulties produced indifference to the needs of organization when, on 23 June 1858, the world was startled by the announcement of the details of the Mortara case. Edgar Mortara, aged six, a son of Jewish parents, was forcibly abducted from his parents' home in Bologna by papal soldiers on the grounds that four years earlier, during a supposed spell of sickness, a servant, Anna Morisi, had secretly baptized the child.

Origin of the Alliance.— Public sentiment now became inflamed. The need of some central organization to watch over Jewish interests was keenly felt and the «Alliance Israélite Universelle,» founded in 1860, was the result. Six Parisian Jews, at that time but little known, but whose names have since become almost household words in Jewry, were chiefly instrumental in founding the society. They were Aristide Astruc, later chief rabbi of Belgium; Isidor Cahen, editor of the 'Archives Israélites'; Jules Carvallo, civil engineer; Narcisse Leven, lawyer; Prof. Eugene Manuel; Charles Netter, merchant.

Objects.—The object of the Society is: «To defend the honor of the Jewish name whenever it is attacked; to encourage, by all the means at our disposal, manual labor and the pursuit of useful trades and professions; to combat, whenever necessary, the ignorance and vice resulting from oppression; to contend, by the power of persuasion and moral influence, for the emancipation of our brethren who still suffer under the oppressive burden of exceptional legislation; to advance and promote the complete enfranchisement of our brethren by intellectual and moral regeneration.» Article I of the Society's Statutes states its object: «(1) To toil everywhere for the emancipation and moral progress of the Jewish people; (2) To extend effective help to those who suffer persecution because they are Jews; (3) To encourage all publications calculated to promote these ends.»

Management.— The Alliance is managed by a central committee of 62 persons, 23 of whom reside in France and 39 in other countries. Its headquarters are located at 35 Rue de Trévise, Paris. The central committee is elected for nine years, one-third of the members retiring at the end of three years, being, however, eligible for re-election.

Methods.— The modus operandi of the Alliance is solely along lines of moral force. The results achieved have, therefore, been slow of growth. They are, however, permanent in character and are beginning to bear fruit in the most unmistakable manner. The work has naturally divided itself into three branches, (1) political; (2) educational; (3) literary. Political activity has not been resorted to with a view of intermeddling in the affairs of the powers, but of appealing to political leaders to secure justice. The necessity for such work arises from the fact that the Jews are followers of a religion which has no government to support it.

Political Activities.— While the undertakings of the Alliance in this direction have not been uniformly successful, they have served to stir the world's sluggish moral sense and in many important respects to improve the political status of the Jews. Switzerland and Sweden first yielded to the appeals of the Alliance and after these initial successes, Russia and the Balkan provinces were the European countries in which the strongest efforts were made, because in these lands the Jews suffered most from all kinds of disabilities. At the time when this society was formed the lot of the Jews in the Balkan provinces was most unfortunate. At its instance remedial legislation was promised and when Adolphe Crémieux went to Bucharest in 1866 and pleaded with the Rumanian authorities, it was believed that Jewish emancipation had been effected. But conditions went from bad to worse, until in 1878 the Berlin Treaty in Article 44 (inserted in the main through the influence of the Alliance), demanded recognition of the political rights of Jews in the Balkan provinces. Serbia and Bulgaria have been faithful to the terms of the treaty, but to this day Rumania considers the Jews as aliens, although the government in 1917 promised reforms. Rumania remains the scene of great activity on the part of the Alliance, large subventions being annually granted for charitable and educational purposes. In spite of persistent representations to the Russian government little success has been achieved in Russia. The political status of the Jews is that of aliens. Social, economic, civil and religious disabilities of every character menace the progress of about 6,000,000 Jewish souls. During the famine of 1869, when Poland and the west-Russian provinces suffered, the Alliance came to the rescue of the unfortunate, provided funds for the purchase of food, helped many to emigrate to Occidental lands, took charge of several hundred orphans and founded trade-schools for Russo-Jewish children in western Europe. When the persecutions of 1881–83 were inaugurated, when the «May Laws» were put into operation and the Pale was again made the compulsory residence of millions of unhappy Jews, the Alliance again became an angel of mercy for them. Kishineff, Odessa, Kieff are names which recall the barbaric massacres of many helpless Jews, and during 1905 the Alliance became the agent of the world's beneficence, distributing over 3,000,000 francs among the sufferers. The soldiers wounded during the Russo-Japanese War, widows and orphans deprived of their natural protectors during the massacres, 8,000 workmen rendered penniless through riots and mob violence, emigrants who sought opportunity and liberty in foreign lands, have all been efficiently assisted by the ministrations of this «universal» agent. With the expulsion of the Tsar in 1917, a happier outlook was predicted for justice for the Jews of Russia. In Mohammedan countries Jewish disabilities are of a different character. Here the people suffer from poverty and lack of education, rather than from political inequality. Still, large sums of money have been spent by the Alliance in Morocco, Tunis, Egypt, Persia and Turkey to protect the Jews from the violence

of the mobs incidental to the misrule prevailing in most of these countries. Its representations have been strengthened by the intervention and support of the British and French, and, in recent years, of the American, consuls, with gratifying results. In 1914 Spain gave grants to schools in Tetuan, Larache and Alcazar in return for making Spanish the language of instruction.

Educational Work.— The most hopeful work conducted is the educational activities designed for intellectual and moral improvement. The bulk of the world's Jewish population in 1860 resided in unprogressive countries and the intellectual status of the majority was necessarily low. In 1862 a school was founded in Tetuan (Morocco), in 1864 another was opened in Tangiers and in 1865 a third was started in Bagdad. In 1880 there were 34 schools; in 1890, 54; in 1899, 94—58 of which were for boys and 36 for girls, having an attendance of 24,000 pupils. To-day the Alliance conducts 132 schools, with an enrolment of more than 40,000 pupils, in Bulgaria, Turkey in Europe, Turkey in Asia, Egypt, Tripoli, Tunis, Algeria, Morocco and Persia. Schools are free to the poorest children who also receive, free of charge, and at the expense of the Alliance, a mid-day meal each day and one or two suits of clothes each year. Whenever possible the scholar must pay a fee, which in the case of the most prosperous is as high as 20 francs a month. The schools are open to children of all denominations, and non-Jews as well as Jews are found among the pupils and instructors. In some localities night-schools for adults are now being conducted. A Rabbinical seminary was founded in Constantinople in 1897. In order to provide instructors for the 132 schools conducted by the Alliance, a normal school was founded in Paris in 1867. As far as possible the teachers are selected from the communities in which they are to teach in later years, and are sent to Paris for tuition. The "Ecole Normale Israélite" has a magnificent building in the French capital in which hundreds of male and female students have received an education to fit them for their profession. Theory and practice go hand in hand under the system of the Alliance. Elementary school education is supplemented by manual and agricultural training. On 5 April 1870 the Mikveh Israel (Hope of Israel) Agricultural School was founded in Jaffa, upon a grant of land of about 600 acres sympathetically granted to the Alliance by an imperial firman of the Turkish government. Fortunately for the undertaking M. Charles Netter was ready to devote his energies to the development of the school, whose existence was due to his suggestion and whose success has been greatly due to his initiative and capable administration. M. Netter died in 1882. The Jaffa Agricultural School has over 220 pupils. Graduates of this school have become the instructors of the colonists who have settled on the Baron Edmond de Rothschild colonies in Palestine and in the de Hirsch colonies in Argentina. Another agricultural school was founded in 1895, in Djedei, a few miles from Tunis. A tract of land of about 3,000 acres was purchased, suitable buildings erected and in a few years there was an enrolment of over 210 pupils. The Alliance also provides means of earning a livelihood through training given in the trade-schools. In 35 different centres of the Near East "apprentice-schools" are conducted in which children are taught remunerative trades. The trade-school in Jerusalem, founded in 1882, has been particularly successful.

Further Activities.— Another branch of educational work undertaken is directed toward the formation of public opinion concerning the Jews. It has spread abroad a knowledge of Jews and Judaism by means of help given to Jewish scholars by subventions granted to assist them while writing and publishing their works. It is said that no important work referring to Jews and Judaism has appeared during the past 35 years without some assistance being granted by this Society. The Alliance library consists of nearly 25,000 volumes.

Bibliography.— The 'Bulletins,' annual, semi-annual and monthly, published usually in French and occasionally in English, German, Dutch, Italian, Judæo-German and Hebrew; 'Publication of the 25th Anniversary of the Foundation of the Alliance Israélite Universelle,' issued in 1885, and published in French, English, German and Judæo-Spanish; 'Publication,' issued in 1896, containing a review of work done from 1860–96; French pamphlet by M. Nissim Behar, American Agent of the Alliance.

J. LEONARD LEVY, D.D.,
Late Rabbi Cong. Rodeph Shalom, Pittsburgh, Pa.

JEW'S HARP, a small musical instrument held between the lips, the sound coming from the vibrations of a tongue of metal, bent at a right angle, which is set in motion by being twitched with the fore-finger. The sound is increased in intensity by the breath, and altered in pitch by the shape of the cavity of the mouth, which acts as a reflector. The name some derive from *jeu,* play, from the fact of its being a toy; but more probably it is a derisive allusion to the harp of David.

JEW'S MALLOW, a pot-herb. See COR-CHORUS.

JEWSBURY, Geraldine Endsor, English novelist: b. Measham, Derbyshire, 1812; d. London, 23 Sept. 1880. She was brought up under the care of her brilliant elder sister, Maria Jane Jewsbury (q.v.), and is chiefly remembered for her friendship with Thomas Carlyle and his wife, although her writings were popular in her lifetime. She possessed a wide circle of friends, among them W. E. Forster, Huxley and Froude. She met the Carlyles in 1841 and the friendship then formed lasted through Mrs. Carlyle's and Miss Jewsbury's lifetimes. Her account of Mrs. Carlyle's early life is printed in Carlyle's 'Reminiscences.' She wrote for Charles Dicken's *Household Words* at his solicitation, and also contributed to the *Athenæum* and to the *Westminster Review.* Author of the novels 'Zoe' (1845); 'The Half Sisters' (1848); 'Marian Withers' (1851); 'Constance Herbert' (1855); 'The Sorrows of Gentility' (1856); 'Right or Wrong' (1859).

JEWSBURY, Maria Jane (MRS. WILLIAM K. FLETCHER), English author, sister of the preceding: b. Measham, Derbyshire, 25 Oct. 1800; d. Poonah, India, 4 Oct. 1833. She lost her mother at the age of 18 and thereupon as-

sumed the care of her younger sister and three brothers. Her first published verse appeared when she was about 18 and she later adopted literature as a profession. She held the admiring friendship of Wordsworth, Miss Landon and other notables and her work was well-received. She married a missionary in 1832 and died of cholera 14 months later. Author of 'Phantasmagoria, or Sketches of Life and Character' (2 vols., 1824); 'Letters to the Young' (1828); 'Lays of Leisure Hours' (1829); 'The Three Histories: The History of an Enthusiast,— the History of a Nonchalant, the History of a Realist' (1830; 3d ed., 1838).

JEX-BLAKE, Sophia, English physician: b. Sussex, January 1840; d. Sussex, 7 Jan. 1912. She was the daughter of a physician, studied medicine in Boston, Mass., 1866–68, and returning to England matriculated at the University of Edinburgh. Here her action in attempting to enter the medical profession aroused the greatest hostility; she was mobbed and eventually excluded from the classes; legal proceedings taken on her behalf proved unsuccessful on appeal; and she subsequently graduated at the University of Berne. She was a pioneer in the higher education of women, and it was her sacrifices that opened the way for women students in medicine in British universities. She founded the London School of Medicine for Women in 1874, the Edinburgh School of Medicine for Women in 1886; and practised in Edinburgh from 1878–99.

JEZEBEL, the Phœnician wife of Ahab, king of Israel. She was the evil genius of her husband, favored the idolatrous worship of Baal in Palestine, and persecuted the prophets of Jehovah. Her name left a dark stain upon the annals of Israel and survived to the later dispensation where it occurs in the Book of Revelation (Rev. xi, 20) as a symbol of feminine depravity and impiety. She outlived Ahab by 14 years (2 Kings ix, 30–37), and was finally murdered by Jehu, when he captured the throne of the northern kingdom (about 843 B.C.). Consult Schmidt, N., 'The Sins of Jezebel' (in *Journal of Biblical Literature,* Boston 1915).

JHELAM, jē'lam, or **JHELUM** (ancient HYDASPES), a river which has its rise in Kashmir. An octagonal tank has been built in a garden at Vernag, and into this reservoir flow springs from the Western Himalayas, which form the head waters of the Jhelam. The river flows northwest to the Wulur Lake, about 10 miles from Srinagar; then southwest and northwest, forming a curve from Wulur Lake through Barambula Pass to Mazufurubad, where it turns south, and flows along the boundary between Punjab and Kashmir, a distance of about 100 miles. Leaving the boundary line at Jhelam it flows southwest into the Chenab River. Its whole course is about 500 miles, nearly all of which is navigable. The first part of its course is through remarkable mountain scenery and the last through a rich agricultural region. It is the thoroughfare for a number of large cities and small towns. This is the river upon the banks of which Alexander the Great built a war fleet in 326 B.C. and fought a battle with Porus.

JICARILLA, a tribe of North American Indians of Athapascan stock, originally occupying portions of Arizona and New Mexico but now settled on a reservation near Tierra Amarilla in northern New Mexico. The tribe at one time comprised two bands, the Llanero and the Ollero, ranging on different banks of the Rio Grande. The name «Jicarilla» is supposed to be of Spanish origin, from «jicara,» a basket tray, the tribe being famed for its skill in basket weaving. At one time they were the terror of their district, but they now live quietly although they remain uncivilized. Their language is similar to that of the Apaches and they are believed to be an offshoot of that tribe although they maintained their independent existence. The tribe is steadily decreasing, now numbering less than 700.

JIG, in music, a light, quick tune or air to be found in the sonatas of Corelli, Handel and other composers till toward the middle of the 18th century. The Irish jig, played to a dance also called a jig, is a lively tune of two or three sections written in 6-8 time. The jig is popular among many nations, is distinguished by various titles and has a certain amount of difference in the steps according to the habits and customs of the people by whom it is adopted. With some it is a sober, steady country dance; with others it is a wild, savage exercise, without point of meaning. With some it is made a means of displaying the agility of the lower limbs of a combined company of dancers; with others it is a terpsichorean drama for two performers, in which all the emotions excited by love are represented by gestures and cries.

In mechanics, a device for holding a casting, stamped work, etc., in position for machining, drilling, etc.

In ore-concentration, a box in which sized ore may be shaken.

JIGGER, the corrupt current form of «chigoe,» the South American name of a small arachnid, or red bug (*Sarcopsylla penetrans*), which abounds in tropical America, and is troublesome by working its way under the skin, especially of the feet, where, unless speedily removed, it produces eggs and forms a bad sore.

JIHAD, jī-hād', **JEHAD,** or **TIHAD** (Arab. «zeal, endeavor»), the term applied to the religious war, as undertaken by Mohammedans against those who did not believe in the mission of the Prophet, for the purpose of promoting the spread of Islam. The Jihad was a religious duty, imposed upon the faithful both by the Koran and the concurrence of sacred tradition. Its purpose was ostensibly the Mohammedanization of the unbelieving, and it was carried on in a systematic manner. The disposition of the peoples conquered in the Jihad was prescribed by law. Captives and others who fell into the hands of the Mohammedan hosts had the choice of three things given them. Either they were to deny their own faith and accept that of Islam, or to consent to pay a toll tax to their conquerors. If they refused both of these alternatives they were put to death by the sword. Consult Baillie, 'Of Jihad in Mohammedan Law' (1871); Hughes, T. P., 'Dictionary of Islam' (1886).

JIMÉNEZ DE RADA, Rodrigo, Spanish archbishop and historian: b. probably Puente la Reina, Navarra, about 1170; d. 1247. He studied at Paris, entered the Franciscan Order and became archbishop of Toledo in 1208 or

1210. He was a dominant figure of his time, a learned writer, statesman, warrior and counsellor of kings. He was engaged at the battle of Las Navas de Tolosa, and commenced the building of the cathedral at Toledo, and founded the first general schools there. His work as a historian was of great importance and influence. Author of 'Historia Gothica,' better known as 'Chronica Rerum Gestarum in Hispania,' which he translated into Castilian, 'Historia de los Godos' (1241).

JIMMU TENNO ("SON OF HEAVEN"), originally **KAMU-YAMATO-IWARE-BIKO**, first ruler of Japan and legendary founder of the reigning line of mikados. He was supposed to be the great-grandson of the grandson of the sun-goddess Amaterasu and the first human ruler of Japan. The name "Jimmu Tenno" is supposed to have been given him 14 centuries after his death. While Japanese annalists place his reign as beginning at 660 B.C., there is small ground for crediting Japanese chronology before the 5th century, as the 'Records of Ancient Matters' are without dates. However, 660 B.C. is generally accepted as the beginning of Jimmu Tenno's rule, in which year he was supposed to have been crowned. He died at his palace of Kashiwa-bara in 585 B.C., his age being reckoned 127 by the 'Chronicles of Japan' and 137 by the 'Records of Ancient Matters.' The theory generally accepted concerning the origin of Jimmu is that if he actually existed he was the leader of an invading band of Mongolians from the Korean peninsula. The Japanese calendar dates from the supposed beginning of Jimmu's reign, and his day is set as 11 February.

JIMSON-WEED. See DATURA.

JINGAL, jĭn'gâl, a large heavy musket used in eastern Asia, especially by the Chinese. It is fired on a rest, or swivel, from a wall, or the bulwark of a boat or ship.

JINGO, a word first used as a political term in the Russo-Turkish War of 1877–78, and was applied to a class of British politicians who continually urged on Disraeli, then the Prime Minister, the necessity of taking sides with the Turks. The word was adopted from "McDermott's War Song" — that is, the song sung in music halls by McDermott and very popular at the time. The chorus ran thus:

We don't want to fight, but, by Jingo! if we do,
We've got the ships, we've got the men, we've got the money, too.

"Jingo" is used to denote any person in favor of aggressive military policy.

JINGO-KOGO, legendary empress of Japan, wife of Chuai Tenno, 14th Mikado (191–200 A.D.). Upon the death of her husband she assumed control of the government, reigning until 270. Chuai Tenno died while on an expedition to suppress an insurrection in Kiushiu, and his wife, concealing his death, left the campaign in the hands of a general while she proceeded with a great force to conquer Korea. After her victorious return, her son, Ojen Tenno, 15th Mikado, was born and Jingo Kogo continued to reign as regent. The son was afterward canonized as Hachiman, god of war. While there is little doubt that the invasion and conquest of Korea are largely mythical there are references in Chinese history, usually more accurate, which indicate the existence of this empress at the period credited by Japanese historians. There is further reference to her in the annals of Japan, when her step-brothers vainly endeavored to prevent her return to Yamato and to bar her son's succession. She is still worshiped in Japan.

JINN, DJINN, or **GENII,** a class of spirits in Arabian folklore and mythology. They are lower than the angels and are made of fire, but are capable of appearing in both human and animal form; and if good are beautiful, while if bad they are hideous. They are supposed to exercise supernatural influence, which may be either goor or bad. While supernatural they are supposed to live, propagate their kind and die as humans do, except that the duration of their lives is greater. Their home is the mountain Kaf and their rulers are kings named Suleyman, or Solomon, one of whom is supposed with their aid to have built the Pyramids. In current translations of the 'Arabian Nights' they are called "genii"; but this, while generally passed, is not to be taken to mean that they are identical with the genii of Roman mythology.

JINRIKISHA, jĭn-rĭk'ē-sha, man-power-carriage, a light vehicle balanced on two wheels, with projecting shafts and cross bar, within which a man steps and pulls. The jin-riki-sha was given a name by the Japanese, with one of those many hundreds of modern word-coinages with Chinese characters, created since contact with foreigners, and which the Chinese themselves have accepted. The common native term in use is kuruma (wheel). Foreigners usually clip one word of the combination, making it "rick-shaw," while the Japanese usually say jin-riki — both vulgarisms. This vehicle, which has gone round the world and is in especial use where labor is cheap, was invented in 1871, at Yokohama, by the Rev. Jonathan Goble, who died in May 1898. He was an American Baptist missionary and formerly a marine in the United States navy, under Commodore Perry. With meagre salary and having a sick wife, and desiring to give her gentle outdoor exercise, he showed to a Japanese carpenter a picture of a baby carriage in *Godey's Lady's Book,* and suggested the plan and form. The Jin-riki-sha quickly displaced the kago and palanquin, and is now in turn being displaced in Japan by the electric trolley car. Whereas in 1908 there were 165,995 jin-riki-sha in use in Japan, the number in 1916–17 was but 112,687, while stage coaches and private horse carriages (ba-sha), automobiles, tram and steam cars (joku-sha), had multiplied in an extraordinary ratio.

JIRÁSEK, Alois, Bohemian novelist and dramatist: b. Hronov, 25 Aug. 1851. He was appointed instructor in a gymnasium at Prague in 1888, and has devoted himself to the portrayal of Bohemian history through medium of historical fiction and drama. Author of the novels 'Nevolince'; 'Mezi proudy' (a triology in the times of Huss); 'Maryla' and 'V cizích službach' (in the period following Huss), etc. The drama 'Vojnarka' (1911) is one of several with a historical foundation. His works were presented in a collected edition (Prague 1899).

JIU JITSU (written also ju-jutsu and jiu-jitsu), the Japanese method of personal attack and self-defense, literally meaning the art of

making one's opponent use his strength to his own disadvantage. There are many methods, but only one is recognized as official, that devised by Prof. Jiguro Kano, principal of the High Normal School of Tokio, and is taught to every officer and enlisted man of the Japanese army, navy and police departments. Included in the 160 feats of the Kano system are the "serious tricks," by which death may be caused at the will of the adept, and the process of Kuatsu or revivi cation, by which the apparently lifeless victim is restored to the full use of his functional powers. Jiu jitsu is not a system of muscle building by physical training, but rather a means of offsetting the effectiveness of powerful muscles, by performing the most skilful yet simple manœuvres. The United States government has recognized its importance as science by having it taught at West Point and Annapolis as a special training. It is a scientific application of the knowledge of the weaker spots in the human anatomy to offense and defense. Such spots as the "funny bone" are utilized to down an adversary; fingers are bent backward; an opponent's onward rush is utilized to trip him; he is encouraged to uncover an armpit; he is pressed in the gland below and back of the ear; in short every trick that would be accounted "foul" in wrestling and boxing is the height of excellence in jiu jitsu. The study and practice of this art has been recommended to slight men and to women as a protection in case of assault. In professional jiu jitsu bouts the contestants avoid being injured by rapping the floor with hand or foot, and thus acknowledging defeat when an adversary has one in a position where he could inflict serious hurt. Consult Skinner, 'Jiu Jitsu' (New York 1904).

JIVARO, JIBAROS, GIVAROS, or XIVAROS, South American Indian race living in Ecuador and northern Peru about the tributaries of the upper Amazon. They are divided into numerous small tribes with individual names, are wholly savage and their language has never been classified. They live chiefly by hunting and warfare, their weapons being lances and bow guns with poisoned arrows. They are head hunters, drying and preserving their enemies' heads and also those of their own chiefs. Spanish settlements were made in their territory in the 16th century and missionaries established themselves there, but all were driven out by an uprising against them in 1599. They live in wooden houses, constructed with considerable skill, raise corn, beans and bananas, and possess the art of weaving.

JOAB, jō'ăb, the son of King David's sister Zeruiah, and commander-in-chief of David's army. He is first mentioned as the leader of David's men in an expedition against Abner. When Joab treacherously murdered Abner in revenge for the death of Asahel, David dared not punish the deed, and thus showed the ascendency which Joab had acquired over him. After David had been established king in Jerusalem, Joab conducted all his wars with uniform success. He remained faithful to him during the rebellion of Absalom. When he had slain that ungrateful son, David made a weak attempt to supersede him in favor of Amasa, the general of Absalom. Joab slew Amasa and resumed his post, a proceeding in which the king tacitly acquiesced. He further supported David by assisting in the murder of Uriah the Hittite. Toward the close of David's reign he joined in the rebellion of Adonijah, for which Solomon, by the advice of David, put him to death (1 Kings ii, 28–34).

JOACHIM, yō'ä-hĭm, **Joseph,** Hungarian violinist: b. Kittsee, near Presburg, 28 June 1831; d. Berlin, 15 Aug. 1907. He was of Jewish parentage and studied under Szervaczinsky at Budapest, with Böhm at Vienna and Hauptmann at the Vienna Conservatory, and after appearances in concert continued his studies at Leipzig. He played in England in 1844. In 1849 he became concert-meister of the Weimar grand-ducal orchestra, of which Liszt was then conductor, in 1854–66 was solo-violinist and conductor of concerts to the king of Hanover, and in 1868 became director of the Hochschule für ausübende Tonkunst at Berlin. He became known, both as an interpreter of the best music and as an executant, as the greatest violinist of his time, and particularly as a quartette player gained an almost classic reputation. His compositions include the 'Hungarian Concerto' in D-minor for violin and orchestra, his most important works; ballads, trios, overtures, marches and works for violin and pianoforte. He played also in the famous quartette which included De Ahna, second violin; Hausmann, 'cello, and Wirth, viola. Consult Moser, A., 'Joseph Joachim' (Berlin 1904); and Bickley, Nora, 'Letters from and to Joseph Joachim' (London 1914).

JOACHIM, jō'ą-kĭm, **Saint, Order of,** an order of knighthood founded 20 June 1755, under the title "Order of Jonathan for the purpose of defending the honor of Divine Providence." It consisted of 14 dukes, princes, counts and nobles, and its grand master was Prince Franz Christian of Saxe-Coburg. Its object was by the establishment of commanderies to stir up the rich to philanthropic work among the lower classes. This order was still in existence in 1820, but it has since then been dissolved.

JOACHIM DE FLORIS, Italian mystic theologian: b. Celico, near Cosenza, Calabria, about 1145; d. Monte Nero, 20 March 1202. Of noble birth he was brought up at the court of Duke Roger of Apulia and in his youth visited the holy places of the East. Soon after his return he resolved to alter his manner of life and entered the Cistercian order at Casamari. In 1177 we find mention of him as abbot of the monastery of Corazzo. He visited Pope Lucius III at Veroli in 1183, and Urban III at Verona two years later. He soon became dissatisfied with the lax discipline of the monastery and retired to the solitudes of Pietralata, where with some followers he founded the abbey of San Giovanni in Fiore, on Monte Nero. He was befriended by the Pope and emperor and branch houses were established. He is best known however as the author of prophetic and polemical works, although in the 13th and succeeding centuries many such works were put out under his name. Only those enumerated in his will can be deemed absolutely authentic. These are 'Concordia Novi ac Veteris Testamenti' (first printed at Venice 1519); 'Expositio Apocalypsis' (Venice 1527); 'Psalter-

ium decem Chordarum' (Venice 1527) and various "libelli" against the adversaries of the Christian name and faith. He divides the history of mankind into three periods, which in the 'Expositio' he calls the Age of Law, or of the Father, the Age of the Gospel, or of the Son, and the Age of the Spirit, which will witness the consummation of all things. His ideas soon spread in Italy and France, and many interpolations were made in his works. Some of the opinions attributed to him were condemned at the Lateran Council of 1215. In 1255 others similarly attributed to him were censured by Pope Alexander IV, but the orthodoxy of Joachim was affirmed. Consult 'Acta Sanctorum' (Antwerp 1643–86); Roussetat, Xavier, 'Etude d'histoire religeuse aux 12e et 13e siècles, Joachim de Flores, Jean de Parma et la doctrine de l'évangile éternel' (2d ed., Paris 1867); Fournier, P. E. L., 'Etudes sur Joachim de Flore' (ib. 1909).

JOACHIMITES, a Christian sect having its origin in the teaching of Joachim, abbot of Floris in Calabria (1145–1202). He was a visionary reformer. He fiercely attacked the corruptions of the Church. His hope and teaching was that there was to come an "Age of the Spirit" in which the Holy Spirit was to have its sway over the secular, beginning with 1260. Some of his teaching was Montanistic. In turn his doctrines were influential with the Franciscans who accepted the idea of the Age of the Spirit; and the Reformers who saw the vision of a better church and therefore of a better world. Joachim and his followers based their vision on a genuine religious experience.

JOACHIMSTHAL, Austria, city in Bohemia, 12 miles north of Karlsbad, at the foot of the Keilberg and at an elevation of 2,365 feet. It is a mining and manufacturing town and originally was celebrated for its silver mines. The silver pieces known as "Joachimsthaler," and later shortened to "thaler," were first coined here in 1518 or 1519. The silver mines are no longer important, but there are other mines of bismuth, nickel and zinc blend. Manufactures include gloves, dyes, tobacco, paper, lace and dolls. Pop. commune 7,550.

JOAN, Pope, mythical female Pope, supposed to have occupied the papal chair in the guise of a man as Pope John VIII, 855–58. As there was no interregnum between Pope Leo IV, 847–55 and Pope Benedict III, 855–58, the story is undoubtedly pure fable; and moreover no mention is made of the supposed popess until the middle of the 13th century, contemporary history being entirely silent on the matter. The legend runs that Joan was of English descent but born at Ingelheim or Mainz, and that she loved a Benedictine monk with whom she fled to Athens disguised as a man. She attained great learning and after the death of her lover went to Rome, still in male attire, rose to be cardinal and finally was elected Pope. She died in childbirth during a papal procession, one legend having it that in a vision she was given choice between temporal disgrace and eternal punishment. The story was widely current from the 13th to the 17th centuries and was first definitely refuted by a French Calvinist, David Blondel, in 'Eclaircissement de la question si une femme a été assise au siège papal de Rome' (1647) and in 'De Joanna Papissa' (1657). These volumes were ably supplemented by Johann Dollinger, 'Papstfabeln des Mittelalters' (1863; Eng. trans., 1872).

JOAN (jo-ăn or jōn) **OF ARC** (JEANNE D'ARC), the Maid of Orleans, heroine of France: b. Domrémy, Basse Lorraine, now department of the Vosges, 6 Jan. 1412; d. Rouen, 30 May 1431. While she was still a girl she began to be deeply affected by the woes of her country, much of which was conquered by the English and their Burgundian allies, leaving only a small portion to the French king, Charles VII. From about 13 she declared she heard heavenly voices, which at last became very definite in their commands to go to the aid of Charles and liberate France. At first she was regarded as insane, but eventually she found her way to the king and his councillors, and having persuaded them of her sincerity, received permission to hasten with Dunois to the deliverance of Orleans. In a male dress, fully armed, she bore the sword and the sacred banner, as the signal of victory, at the head of the army. The first enterprise was successful. With 10,000 men she marched from Blois, and on 29 April 1429 reached Orleans with supplies. By bold sallies, to which she animated the besieged, the English were forced from their intrenchments, and Suffolk abandoned the siege (8 May 1429). Other successes followed; Charles entered Rheims in triumph; and at the anointing and coronation of the king, 17 July, Joan stood at his side. She then asked to be allowed to return home, but at the urgent request of King Charles, remained with the army. She was later less successful and failed to capture Paris. On 24 May 1430 she entered Compiègne, then besieged by the Burgundians, and on the same day, in a sally from the town, was taken prisoner. Subsequently she was delivered to the English, who, with the University of Paris and the bishop of Beauvais, demanded her execution as a sorceress. She was taken to Rouen, and after a long mock-trial, accompanied with many shameful circumstances, condemned to death. On submitting to the Church, however, and declaring her revelations to be the work of Satan, her punishment was commuted to perpetual imprisonment. But pretexts were soon found to treat her as a relapsed criminal, and as such she was burned at Rouen, and her ashes were thrown into the Seine. She died with undaunted fortitude. Her recantation is now doubted by some historians. Voltaire, in a notorious burlesque, 'La Pucelle,' Southey, Schiller and others have made her the subject of their verse. Schiller's drama, 'Die Jungfrau von Orleans,' still remains the worthiest monument of her fame. A revision of the trial was later had at the instance of her family, and she was declared innocent (1456). From 1875 the question of her canonization was discussed at Rome, in 1902 she was pronounced "venerable" and she was beatified by Pius X, 11 April 1909.

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JOAN OF ARC, Personal Recollections of, a historical novel by "Mark Twain" (S. L. Clemens), published in 1896. It professes to be a translation by Jean François Alden from the ancient French of the original unpublished MS. in the national archives of France, written by the Sieur Louis de Conte, her page and secretary. The historical facts are closely followed.

JOANNESIA, a genus of plants of the family *Euphorbiaceæ*. *J. princeps,* the single species, is an inhabitant of Brazil. The wood is spongy and light, the flower yellow and large, and the fruit a gray nut which encloses two kernels in a double rind. The fruit is strongly purgative and is used by Brazilians as a remedy in cases of indigestion, jaundice and other diseases. Oil is pressed from these kernels, with which the natives anoint their limbs. It is said to be a good drying oil and excellent for painting. The rinds of the fruits, thrown into ponds, destroy the fish.

JOASH (or **JEHOASH,** as it is sometimes written), king of Judah, was the great grandson of Ahab and grandson of the wicked Athaliah who sought to put him out of the way. He was also a direct descendant of David. He was hidden away in a lumber-room of the palace by an aunt. When he was seven years old he was placed on the throne by the priestly party under the leadership of Jehoiada. On the whole his reign was a good one. He repaired the Temple and had the people taught from the rediscovered roll of the law. The blot on his reign was the murder of Zechariah, son of his benefactor, Jehoida. Hazuel, the Syrian, invaded his kingdom but was bought off with immense bribes, including the Temple treasures. He was the victim of a painful malady and because of his loathsome condition was finally assassinated by his own servants.

JOB, a legendary character of Hebrew literature whose history is poetically treated in the book of Job. He is said to have been a sheik of the patriarchal age who lived near the Arabian desert on the eastern boundary of Palestine. After repeated disaster and ruin, suddenly stripped of his possession, bereaved of his children, himself smitten with leprosy, and his wife advising him "to curse God and die," he gives way to despair, his friends even giving him but critical, philosophical advice. Finally, however, by force of character he rises superior to circumstances, and regains health, wealth and honor. The traditions handed down, according to early custom, in oral form, were committed to MS. about the 5th century B.C. While they have their origin in historical tradition, the events describing the life of Job are not regarded as literal history. Some authorities contend that the book is purely a literary invention, a rabbi as early as the Talmud 'Baba Bathra' (xv, 1), writing "Job was not, and was not created, but is an allegory." See JOB, BOOK OF.

JOB, Book of. The supreme masterpiece of ancient Hebrew literature, is one of the small group of world poems that live as universal expressions of the human spirit. The book takes its name from its hero, who is pictured as an ancient sheik living to the eastward of Palestine, on the borders of the Arabian Desert. Already in the time of Ezekiel (Ezek. xiv, 14, 20), the name was famous as that of a righteous man. It was perhaps two and a half centuries later than Ezekiel's reference that the unnamed author of the book made the ancient, traditional figure the hero of his great poem. The exact date of the author and his work is undetermined, but the relation of the poem to the general development of Jewish literature places it most naturally in the last century of Persian rule or even shortly after Alexander's conquest.

In orderly structure, Job resembles Greek and other Western literary works much more closely than do most examples of ancient Semitic literature. The poem is framed by a prologue and epilogue in prose. These, presumably, give the substance of the ancient traditional story as it had come to the author. It may be that their present artistic form is due to his genius, but the explanation of Job's sufferings given in the prologue is so foreign to the body of the poem, and the restoration of double the material blessings, in the epilogue, is so far below and so inconsistent with the thought of the poem that it seems as though the tradition was already too firmly established for the author greatly to modify its substance. The prose sections, when taken together, give a dramatic account of a series of misfortunes that fell on Job in order to prove to the Satan, "the Adversary," that disinterested righteousness does exist in man. Having endured the test with complete devotion to God, Job was rewarded with material prosperity twice as great as he had before. The prologue closes with the visit of Job's three friends who come to comfort him, but sit by him in silence for seven days. The great poem, inserted between the two parts of the prose narrative, itself falls into three main divisions: (1) the discourses of Job and his three friends (chaps. iii–xxxi), (2) the speeches of Elihu (chaps. xxxii–xxxvii), (3) the words of Jehovah and Job (chaps. xxxviii–xlii, 6). The Elihu section is best regarded as a later addition, made by some one who felt that the author had failed to present the orthodox point of view maintained by the friends with enough strength. The original poem would then be made up of the two great divisions — the debate between Job and his friends and the interposition of Jehovah when the friends have been silenced. The poem is much more impressive in this briefer form. The first section is subdivided into Job's curse and three cycles of debate. In each cycle the friends speak in turn, followed in every case by Job, except that in the third cycle the third friend, Zophar, does not appear. Some of the words ascribed to Job in this section probably belonged originally to Zophar (xxvii, 7-11, 13-23) so that the three cycles were complete. The notable poem on the unsearchableness of wis-

dom, near the close of the third cycle (chap. xxviii), belongs to no one of the speakers in the original debate and was probably introduced by some later hand.

In sharpest contrast to the prologue, the poem begins with Job vehemently cursing the day of his birth and longing for death. The friends are greatly shocked at Job's words. Eliphaz urges that confession of sin would be appropriate; Job is no doubt a great sinner for trouble does not come without a cause. He exhorts the sufferer to seek unto God, who will greatly bless if Job accepts correction and does not despise the chastening of the Almighty. Job admits that his words have been rash under his great calamity and again longs for death. He adds pertinently that when one is ready to faint and is forsaking the fear of the Almighty, kindness should be shown him from a friend; but his friends have proved as deceitful as the mountain torrents of Palestine which vanish under the summer's heat. He describes the horror of the disease with which he has been smitten, which gives him no respite day or night and then turns to bitter words toward the watcher of men who has set him up as a mark. Bildad now speaks, and more bluntly than Eliphaz had done, even suggesting that Job's children may have met their sudden, tragic death because of their sin. At the close, he too holds out hope; but Job now sees his hopeless case with his friends. If it is true, as they believe, that God gives prosperity to the righteous and sends suffering to the wicked, then he is proven guilty, yet his conscience acquits him. His own suffering has opened his eyes to the fact that the time-honored dogma of material rewards and punishments is not true to the facts; rather wickedness prospers and it must be God who is responsible. If it be not He, who then is it? Returning at length to his longing for final release, he pleads with God for a little mercy before he goes to the land of the shadow of death. Zophar, untouched by the pathos of Job's plea, charges that God is exacting less than Job's iniquity deserves. In this first cycle of the discussion, the point of view of the friends becomes clear. They have inherited the noble faith bequeathed by the prophets and are earnest defenders of God's justice and mercy. The prophetic doctrine that sin brings suffering to the sinner may be supported with much evidence. Job has had a personal experience, however, which has made clear to him the fact that material benefits are not always apportioned on the basis of merit. In closing this cycle of the debate, Job sarcastically scorns the friends' traditional wisdom with which he is as familiar as they. They draw their wisdom from the ancients; he tells them that wisdom is with God and power too; but Divine justice he cannot find in human affairs. From man he turns to God, longing to speak directly with Him; he will take his life in his hand and appear before the Almighty. Then the strength of the sick man fails. God's hand is upon him so that he cannot argue his case. He prays that he may be hidden in the grave till the wrath is past and then may have a hearing. Thus Job is brought to the question: If a man die, shall he live again? If Job could believe in a life after death, he could wait, but he sees only oblivion and sinks back in despair.

Already before this first cycle ends, the interest of the sympathetic reader has insensibly passed from the argument of the debate to the unfolding of Job's inner life. In the following cycles the accusations of the friends become more direct, but they are able to add little that is new in support of their contention that all suffering is sent for sin. In the second cycle it becomes clear that all Job really asks of his friends is sympathy while he pursues his lonely quest through the darkness. It is God, not the friends, with whom he is really concerned. Once and again he rises to the momentary faith that his case is clear in heaven and that he will ultimately see God and find vindication. Under all his doubts there is the conviction that God must be just as well as powerful. Job's real quest is for a satisfying view of God which the current theology could not afford him. The friends who represent this theology are silenced but not convinced. The debate closes with a long discourse of Job in which he tells how in his former honored condition he had been accustomed to give sympathy to the wretched and defends himself against the charges of sin. Then he realizes that his defense is hopeless; God does not hear and he is speaking in ignorance of the charge against him.

Omitting the Elihu speeches as an intrusion on the original complete poem, Job's wish is suddenly granted. Jehovah speaks out of the whirlwind, telling of his wisdom and power in the creation and control of the mighty forces of nature. In this section many feel that an interpolator had added the semi-mythical behemoth and leviathan (xl, 15 — xli, 34). Without these the section contains the wonders of both the inanimate and animal worlds. In the speeches of the Almighty no really new thought is added to the faith that the Hebrew prophets had attained before the book of Job was written; but a splendid, dramatic presentation of the Divine wisdom and power seen in nature humbles Job; he feels that he had heard of God by the hearing of the ear but that he now sees Him. In this vision he rests humbled and content, not even thinking of arguing his case as he had hoped to do.

Like every great work of literature, the book of Job is a transcript from life as it is. It reveals the negative power and the limitations of the critical intellect, the positive power and outreach of vision and faith. The classification of the poem has been the subject of much debate. That it is dramatic is obvious; it may even be presented with some effective power upon the modern stage; yet the theory that the poem is a genuine drama, designed for action, is now generally abandoned. It is recognized, indeed, that the ancient Semites did not develop any true drama, so far as our knowledge of their life and literature extends. The work has in recent years been styled an epic, "the epic of the inner life," telling the story of the perilous quest and brave deeds of a typical Jewish hero whose exploits were in the sphere of the spirit. In external form it resembles epic rather less than drama, yet the recognition of the fact that the search for God is the essence of the poem is vital to its right understanding. Exact classification of ancient Semitic writings under our categories of Indo-European literature is not possible. The divisions of epic and dramatic poetry were made

for the description of Greek not Hebrew poetry. That has its own forms, usually less rigid than those of Western writings. As yet they have defied thoroughly satisfactory definition. Although Job is a supreme world poem revealing "the essentials of life in its greatness," true alike to the 4th century B.C. and the 20th century A.D., in external form it is Semitic poetry, not Occidental. This statement is just as true of its general structure as it is of its genuinely Hebrew rhythm and metre.

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HENRY THATCHER FOWLER,
Professor of Biblical Literature and History, Brown University.

JOBERT DE LAMBALLE, zhō'bār dĕ läṅ'bal', **Antoine Joseph,** French surgeon: b. Matignon, 17 Dec. 1799; d. Passy, 25 April 1867. In 1825 he was made assistant in anatomy for the faculty of Paris, then doctor of medicine and supplementary professor at the École de Médecine, next surgeon for the central bureau of hospitals. In 1830 he became surgeon at the Saint Louis Hospital, and in his later years he worked in the Hotel Dieu Hospital, and was made professor of the external clinic of the Paris faculty. In 1854 he was appointed surgeon to the emperor and was made member of the Academy of Sciences in 1856. He did valuable service in uterine diseases and invented *cystoplastie* by use of healthy tissue in the cure of vesico-vaginal fistula. His best-known works are 'Traité des plaies d'armes à feu' (Paris 1833); 'Recherches sur les appareils électriques des poissons' (ib. 1858); 'Etudes sur le système nerveux' (ib. 1838); 'Traité de chirurgie plastique' (ib. 1849); 'De la Réunion en chirurgie' (1864).

JOB'S TEAR, a stout grass (*Coix lachryma-jobi*), allied to maize, and sometimes six or eight feet in height. It is a native of tropical Asia and Africa, is naturalized in Spain and in other countries, and is sometimes grown in hothouses. The hard, round, shining seed-capsules, from whose fanciful resemblance to tears the plant derives its name, are used in making rosaries and ornamental articles, as medicine by the Chinese, and as a staple food among some of the hill-tribes of northern India. See also GRASSES IN THE UNITED STATES.

JOBSON, Frederick James, English Wesleyan clergyman: b. Northwich, Cheshire, 6 July 1812; d. London, 4 Jan. 1881. After serving as apprentice to a Norwich architect he entered (1834) the Wesleyan ministry preaching at Patrington, Yorkshire (1834), and Manchester (1835–37), when he became assistant at City Road Chapel, London. He was a delegate (1856) of the British conference to the Methodist Episcopal Conference held at Indianapolis, Ind., and to the Sydney, Australia (1860), conference. He advanced the publishing business of his denomination as book steward (1864–79) and superintended the issue of the *Methodist Magazine* for 12 years. At the Wesleyan Methodist Conference (1869) he was elected president. His best-known works are 'Chapel and School Architecture' (London 1850); 'America and American Methodism' (1857); 'Australia; with Notes by the way on Egypt, Ceylon, Bombay and the Holy Land' (1862); 'Perfect Love for Christian Believers' (1864); 'Serious Truths for Consideration' (1864). In B. Gregory's 'Life of F. J. Jobson' (London 1884) are a number of his sermons.

JOCELYN, Nathaniel, American portrait painter: b. New Haven, Conn., 31 Jan. 1796; d. there, 13 Jan. 1881. At 18 he was apprenticed to an engraver, but after three years his early love for painting asserted itself and he established himself as a portrait painter at New Haven in 1820. He was for some time resident in Savannah, where he painted many portraits, but returned to his native town where his work was very popular and where from 1825 to 1835 he painted the portraits of many notables, not a few of which are preserved in Alumni Hall at Yale. His fame extended beyond the limits of his State and he exhibited at the Academy of Design on several occasions. At the age of 80 he painted 'Ocean Breezes,' a successful work of fancy, and his only one. His portraits have been greatly prized by critics. Jocelyn was a staunch anti-slavery man, and his home in New Haven was long one of the stations on the underground railroad. He was for many years the senior partner of a bank-note engraving company in New York which subsequently became the American Bank Note Company, resigning from the latter in 1867.

JODHPUR, India, capital city of the Rajput state Marwar or Jodhpur, in lat. 26° 17′ N. and long. 73° 4′ E. It was built by Rao Jodha 1459 A.D., and is located on the Luni, constructed like an amphitheatre and surrounded by a strong wall. On a high rock is the fort which contains the palace of the maharajah. The sacred suburb Mahamandil lies somewhat apart and is also fortified and is ruled over by the high priest of the empire. To the north are the magnificent ruins of the forsaken (1459) capital Mandor. This city is the seat of government and the buildings are of good architecture and substantial construction as the neighborhood has a large stone supply. Here are located a high school, college, two hospitals, etc. It is an important commercial centre and has a wheat market and electric-lighting plant. Among its manufactures are beans, ivory, lacquer wares, vegetable dyes, etc. Pop. 59,262.

JODHPUR, or **MARWAR,** India, tributary state of the British East Indian province Rajputana. It is bordered on the east by the Aravalli Mountains whose watershed feeds the

river Luni which flows through the entire state, ending in the Great Rann. To the west it is bordered by the Indian Desert. The climate runs to great extremes, frost often appearing in the winter season. There are several salt lakes from which salt is extracted in commercial quantities. In the irrigated sections are grown wheat and cotton. The best camels of India are raised here besides fine cattle, horses and sheep. Its exports also include wool, iron and zinc. Sugar, rice and cotton goods are the chief imports. The railway from Sindh to Agra bisects the state from west to east. Its maharajah has great governing power and receives a big income from taxation and sustains a considerable army. Pop. 2,057,553.

JOE PYE WEED. See EUPATORIUM.

JOEL, one of the minor Hebrew prophets who lived in the 5th century B.C., a predecessor by a few years of Amos and Hosea, whose writings are very similar in character. Outside of his writings, nothing is known of the author. His style is that of a clear, calm, logical mind free from the doubts and struggles that distract the minds of other Hebrew poets and prophets. Without the strain and abruptness that characterize the writings of Hosea and Jeremiah, his language is smooth and flowing, the imagery is gorgeous in its profusion, and metaphor and hyperbole have to be interpreted to discern fact amid the maze of imagination and fancy. See JOEL, BOOK OF.

JOEL, Book of. The book consists of two parts, which differ materially from each other in thought. Chapters i and ii, 1–27, except for possible later additions, were written in the midst of a plague of locusts and drought, regarded as a punishment upon Israel; while chapter ii, 28–32 and chapter iii (chapters iii and iv in the Hebrew), make no mention of these circumstances but are dealing with the coming day of Yahweh, the final judgment on the nations. Until recently the whole book, or the most of it, has been regarded as the work of a single author; but now some maintain that the second part, or the most of it, is not by the author of the first part. This is on grounds of thought and style, neither reason, however, giving a sufficient warrant for this conclusion. The probable view is that the most of the book was by a single author, the two portions, however, being written at different times. There are a few later additions. These in the first portion are i, 15; ii, 1b, 2, 10–11, 20. All these were designed to connect the first part with the thought of the second, in each case they are inappropriate in the context and interrupt the thought. In the second part iii, 4–8 interrupts the connection, and is to be regarded as a later addition.

Concerning the prophet, nothing is known outside of the book. His name means: "Yahweh is God." In earlier times the date was often thought to be pre-exilic. It is now generally recognized, however, that it is post-exilic. This is evident from iii, 2, from which it appears that the people are scattered among the nations. There is no mention of a king, which points to the same period. The emphasis on the importance of the Temple services also strongly suggests the post-exilic period. Chapter ii, 32 is a direct allusion to Obadiah xvii, which was written after the exile. The allusions to foreign nations make no mention of Assyria or Babylonia, one of which is mentioned in every pre-exilic prophet except Amos, and doubtless alluded to there. Further, there is no mention of the northern kingdom, Israel, which excludes the pre-exilic period except the last part. The Temple is standing, as appears from frequent references, such as i, 13, hence it is after 516 B.C. Probably ii, 9 indicates that the wall of Jerusalem has been built, thus indicating the time after Nehemiah. The date about 400 B.C. seems, therefore, most probable.

The thought of the book is in accord with the general teaching of the prophets, although it makes no material advance upon the messages given earlier. The author prizes more highly than most of the prophets the external worship, yet this is regarded as an expression of the realities of the inner life, ii, 13. He connects sin and punishment, repentance and national prosperity. He looks forward to the coming day of Yahweh, a general judgment upon the nations for their sins. In this time the true Israel, the faithful who call upon Yahweh, will be delivered, ii, 32, iii, 16; and will receive abundant blessing, iii, 18–21. The conception of God emphasizes his power and his justice.

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GEORGE RICKER BERRY,
Professor of Old Testament Interpretation and Semitic Languages, Colgate University.

JOFFRE, zhō'fr', **Joseph Jacques Césaire,** marshal of France: b. Rivesaltes, Pyrénées, 4 Jan. 1852. He was educated at the College of Perpignan and in 1868 was enrolled at the École Polytechnique as a student of military engineering. He joined the French army as second lieutenant during the Franco-Prussian War of 1870–71, and was in command of a battery during the siege of Paris. He returned to the Polytechnique after the war, was made a lieutenant in 1872, helped in the defense of Pontarlier in 1874 and became captain in 1876. He served in Tongking under Courbet in 1883–84, and under Dodds in Dahomey 10 years later. He took part in the occupation of Timbuctoo in 1894 and in the Madagascar campaign of 1897; was appointed on his return professor at the Higher War School and in 1901 was made brigadier-general of a division. He organized the defenses of Formosa and in 1911 while in command of the Second Army corps at Amiens was made commander of all the French forces. The Three Years' Service Law for the French army is largely due to his efforts. He is a distinguished mathematician. At the outbreak of the war in Europe in 1914 he was chief of the general staff. He was placed in supreme command of all forces, both British and French, on the western front. History will in all probability laud him as the hero of the Marne. With Von Kluck battering his way to Paris, Joffre doggedly refused to give battle, announcing that at his own time and on his own ground, and not before, would he make his stand. But when, finally, he issued his memorable orders on the eve of Lafayette's birthday, in that gloomy September of 1914, "Troops unable to advance should die where they stand rather

than give ground to the enemy,» not a soldier wavered. The German was thrown back on the Somme front, Paris was saved and Joffre ascended to the council of France's heroes. Joffre yielded the command of the forces in the field to General Nivelle in 1917, and became adviser of the general staff at the war office. In April 1917 he was made a member of the French High Commission to confer with the government of the United States on the conduct of the war. Everywhere in America he was hailed as «the savior of France.» He was made a marshal of France in 1915 and holds the grand cross of the Legion of Honor. He is greatly esteemed by the soldiers of his command for his many little deeds of kindness along the battle line and men in high places respect him because, shortly after he assumed supreme command, he cashiered several generals for inefficiency, without regard to friendship or political influence. He has published 'My March to Timbuctoo.'

JOGUES, zhōg, **Isaac,** French missionary among the North American Indians: b. Orleans, 10 Jan. 1607; d. Ossernenon, near the present Auriesville, Montgomery County, N. Y., 18 Oct. 1646. He became a Jesuit at Rouen in 1624, and, after some years passed in study and teaching, was ordained in 1636. At his own request he was immediately sent to the Huron mission in Canada. In 1639 he undertook a mission to the Tobacco Nation, in 1641 preached to the Algonquins at Sault Sainte Marie, not long after went to Three Rivers for supplies for the Huron Mission, and upon his return was captured by the Mohawks and severely tortured. He remained among the Indians as a slave, until the summer of 1643, when he made his escape to the Dutch settlement of Rensselaerswyck (Albany), and was conveyed thence to New Amsterdam. He finally reached France, where he was treated with great consideration, and invited to court. Returning to Canada, he traveled to the Mohawk country in May 1646, in the capacity of an ambassador to conclude a treaty between that people and the French. Ascending the Sorel, he passed through Lake Champlain and Lake George, which he named Lac Saint Sacrement. Having ratified the peace he returned to Quebec, and after a few days' rest set out for the Mohawks again, this time as the founder of the Mission of the Martyrs. He was soon tortured as a sorcerer, and finally killed. Consult Martin, trans. by Shea, 'Father Isaac Jogues' (1896); Parkman, 'The Jesuits in North America' (1898). See JESUITS.

JOHANNES SECUNDUS, Latin poet: b. The Hague, 14 Nov. 1511; d. Doornyk, 24 Sept. 1536. His actual family name was Jan Nicolai Everaerts. He studied law at Bourges, then turned to art, traveling through Italy and Spain and becoming secretary of Cardinal Tavera, archbishop of Toledo. He became devoted to poetry and his work shows tenderness, and refined selection expressed in the classic language. Best known is his 'Basia' (Utrecht 1539). A complete collection of his poetic works is found in 'Opera poetica' edited by his brothers (Paris 1541; Leyden 1821).

JOHANNESBURG, yō-hăn'nĕs-boorg or jō-hăn'nĕs-bĕrg, South Africa, the most populous city and the commercial metropolis of South Africa, situated 5,735 feet above the sea, about 30 miles southwest of Pretoria, in the Transvaal, with which and with Delagoa Bay 364 miles, Durban 483 miles, East London 659 miles, Port Elizabeth 715 miles and Cape Town 957 miles, it is in railway communication. It is the recognized business centre of the rich gold fields of the Witwatersrand. In 1886 it was represented by a few shanties, but the discovery of gold and the development of gold mining has made it within a comparatively few years the most important city in South Africa. Municipal government was conferred upon the city by the Transvaal authorities in 1896, when the population within a three-mile radius was 102,078, of whom 50,907 were whites, 67 per cent of these being of British origin, while the Boer citizens numbered 6,205. The great Uitlander agitation, which culminated in the Transvaal War (1899–1902), centred in Johannesburg, which was occupied by Lord Roberts in 1900. Since the close of the war, important public improvements have been carried through. These include many miles of well-paved streets, an elaborate electric car system, new waterworks and a sanitation system. Mementoes of the former Boer rule are an imposing but dismantled fortress which dominates the town, and the monument near Krugersdorp which commemorates the declaration of Boer independence in 1880. The town is lighted by electricity.

The international peace exhibition of South Africa, held at Johannesburg in 1904–05, when the inhabitants numbered 158,580, fully rehabilitated commercial interests, and it was then predicted that within six years Johannesburg would have a population of 200,000. It has bettered that number. Pop. 237,104, of which 119,953 are Europeans, and 117,151 natives.

JOHANNINE EPISTLES. See JOHN, EPISTLES OF.

JOHN, the name of 23 Popes, as follows:

JOHN I, Saint: b. Tuscany; d. 526. He succeeded Hormisdas in 523, and was a friend of Boethius, who dedicated to him several of his works. Theodoric sent him to Constantinople to induce the Emperor Justin to adopt milder measures toward the Arians. Though received with uncommon pomp, his mission was fruitless, and on his return Theodoric threw him and his companions into prison, where he died. He is commemorated by the Roman Catholic Church 27 May.

JOHN II (MERCURIUS): d. Rome, 27 May 535. He was a Roman and was surnamed Mercurius by reason of his eloquence. He became Pope in 532. His letters are published in Migne, 'Patrologia Latina' (Vol. LXVI).

JOHN III: d. Rome, 12 July 572. He was a Roman and became Pope in July 560. During his time the Lombards frequently ravaged Italy.

JOHN IV: b. Salona in Dalmatia; d. Rome, 11 Oct. 642. He was elevated to the papal chair in December 640 and was noted for zeal and orthodoxy. He formally condemned the Monothelitic statement of faith which Sergius had drawn up at the desire of the Emperor Heraclius.

JOHN V: b. Antioch, Syria; d. Rome, 2 Aug. 686. He was the earliest of several pontiffs of Oriental origin and had been sent to

GENERAL JOSEPH JACQUES CÉSAIRE JOFFRE

Maréchal de France

Commander-in-Chief of the French armies (1915-17)

the Sixth General Council by Pope Agatho as legate. He became Pope 24 July 685.

JOHN VI: he was a Greek by birth; d. Rome, 9 Jan. 705. He became Pope in 701, and when appealed to with reference to the long dispute between Saint Wilfred of York and the archiepiscopal see of Canterbury, decided in favor of the latter.

JOHN VII, a Greek: d. Rome, 17 Oct. 707. He became Pope 1 March 705.

JOHN VIII, a Roman: d. Rome, 15 Dec. 882. He became Pope in 872. The Saracens during his pontificate pushed their ravages to the gates of Rome and he was compelled in 877 to pay them tribute. He crowned three emperors, Charles the Bald, 875; Louis the Stammerer, 878; and Charles the Fat, 881. He attempted, but unsuccessfully, to unite the Greek and Latin churches.

JOHN IX: b. Tibur; d. May 900. He belonged to the Benedictine order and became Pope, as the choice of the Frankish party, in June 898.

JOHN X: b. Romagna; d. July 929. He was a man of great ability and of virtuous character notwithstanding the aspersions Liutprand casts upon him. He was archbishop of Ravenna in 905 and became Pope in 914. He placed himself at the head of an army and drove the Saracens from Italy, but his determination to rule independently of any faction aroused the anger of his opponents and he was imprisoned, and at length murdered, by Theodora's daughter, Marozia, whose ambitions he had thwarted.

JOHN XI: b. 906; d. 936. He was the son of Marozia (q.v.) and Guy, Duke of Spoleto. He was elected Pope while under age in 931, and governed through the influence of his mother. His brother Alberic II revolted and imprisoned the Pope and his mother in the castle of San Angelo, where John died.

JOHN XII (Octavian): d. Rome, 14 May 964. He was the son of Alberic and grandson of Marozia. He became Pope in 956, after the death of Agapetus II, though only 18, and was the first Pope who changed his name on accession to the papal dignity. He applied to the Emperor Otho I for assistance against Berengarius II, crowned the emperor 962, and swore allegiance to him, but soon after revolted against Otho, who caused him to be deposed by a council, in 963, and Leo VIII to be elected. On Otho's departure for Germany, John returned and excommunicated his rival.

JOHN XIII, a Roman: d. Rome, 6 Sept. 972. He was bishop of Narni, was made Pope in 965 by the influence of the Emperor Otho I and was expelled by the Roman nobles. Otho II restored him to Rome and was crowned by him. The Poles and Hungarians were converted during his pontificate.

JOHN XIV (Peter): b. Pavia; d. Rome, 20 Aug. 984. He was bishop of Pavia and had been chancellor to Otho II who made him Pope in November 983, in place of the anti-pope Boniface VII. The latter had seized the papacy after the death of Otho I. Boniface now returned from Constantinople and imprisoned John in the castle of San Angelo, where he died soon after.

JOHN XV: d. Rome, April 996. He was the choice of Crescentius and his party, under whose influence he remained throughout his reign (985–996).

JOHN XVI (Philagathus), a Greek of Calabria: d. probably April 1013. He became Pope in 997. A native of Rossano, Calabria, he became a monk and from Otto II received the abbey of Nonantola. In 988 he was promoted to the see of Piacenza. Crescentius placed him on the papal throne in 997 which he occupied about a year before he was thrown into prison by Otto III, and subsequently removed to a monastery. His nose and ears were cut off and his eyes gouged out.

JOHN XVII (Sicco): b. Ripa Jani; d. Rome, 6 Nov. 1003. An anti-pope intruded during the pontificate of Gregory V. He reigned only a few months, from 13 June 1003 to 6 November.

JOHN XVIII (Phasianus). He became Pope on Christmas Day 1003, and in May 1009 resigned his office and entered a monastery. His pontificate was marked by strict attention to ecclesiastical administration.

JOHN XIX, a Roman: d. January 1033. He succeeded his brother, Benedict VIII. He was disposed to concede the title Ecumenical to the patriarch of Constantinople, but this met with so much opposition from the Latin Church that he was obliged to withdraw the concession. He crowned the Emperor Conrad II in the presence of Rudolph of Burgundy and King Canute of Denmark and England.

JOHN XX, frequently called **JOHN XXI** (Pedro): b. Lisbon, Portugal; d. Viterbo, Italy, 20 May 1277. He became in 1273 cardinal-bishop of Frascati and Pope in September 1276. He was learned in philosophy and medicine and wrote several treatises still of interest as showing the status of mediæval medicine.

JOHN XXI. See John XX.

JOHN XXII (Jacques D'Euse): b. Cahors, about 1244; d. Avignon, 4 Dec. 1334. He was archbishop of Avignon, cardinal-bishop of Porto (1312) and was elected Pope at Lyons 1316, two years after the death of Clement V. He resided at Avignon, but had many adherents in Italy. He is important in German history on account of the active part he took in the disputes of the Emperors Louis of Bavaria and Frederick of Austria. Louis intruded the anti-pope Nicholas V and declared John XXII deposed. Several theological controversies filled his pontificate with ecclesiastical strife, the most notable being the question of absolute evangelical poverty raised by the Franciscans and that of hominalism led by William Occam (q.v.). He published in 1317 the 'Constitutions of Clement V,' a manual of canon law, since known by the title 'Clementines' (q.v.). He was also the author of the decretals called 'Extravagantes.'

JOHN XXIII (Baldassare Cossa): b. Naples; d. Florence, 22 Dec. 1419. He was elected Pope in 1410, by the Council of Pisa, after the death of Alexander V, on condition that, if Gregory XII and Benedict XIII would resign, he would also retire to end the schism. He summoned the Council of Constance, demanded by the Emperor Sigismund, in 1415, where he confirmed his resignation 2 March; but 20 March he fled secretly from Constance to Schaffhausen and revoked his resignation. He was cited before the council, but not ap-

pearing, he was suspended and finally deposed. He was imprisoned four years. Pope Martin V subsequently pardoned him and made him cardinal-bishop of Tuscoli and dean of the college of cardinals.

JOHN, king of England: b. Oxford, 24 Dec. 1166; d. Newark, Nottinghamshire, 19 Oct. 1216. He was the youngest son of Henry II, by Eleanor of Guienne. Being left without any particular provision he received the name of *Sans Terre* or Lackland; but his brother, Richard I, on his accession conferred large possessions on him. He obtained the crown on the death of Richard in 1199, although the French provinces of Anjou, Touraine and Maine declared for his nephew, Arthur of Brittany, who was lineally the rightful heir, then with the king of France. A war ensued, in which John recovered the revolted provinces and received homage from Arthur. In 1201 disturbances again broke out in France, and Arthur, who had joined the malcontents, was captured and confined in the castle of Rouen and never heard of more. John was universally suspected of his nephew's death, and in the war which followed he lost Normandy, Anjou, Maine and Touraine. In 1205 his quarrel with the Pope began regarding the election to the see of Canterbury, to which the Pope had nominated Stephen Langton. The result was that Innocent III laid the whole kingdom under an interdict, and 1211 issued a bull deposing John. Thereupon John made abject submission to the Pope, even agreeing to hold his kingdom as a vassal of the Pope (1213). His arbitrary proceedings led to a rising of his nobles, and he was compelled to sign the Magna Charta or Great Charter 15 June 1215. But he did not mean to keep the agreement, and obtaining a bull from the Pope annulling the charter, raised an army of mercenaries and commenced war. The barons, in despair, offered the crown of England to the Dauphin Louis, who accordingly landed at Sandwich 30 May 1216, and was received as lawful sovereign. The issue was still doubtful when John died. Consult Stubbs, W., 'Lectures on Early English History' (Vol. I, London 1906); Norgate, K., 'England under the Angevin Kings' (1887), and 'John Lackland' (1902).

JOHN II, king of France, surnamed the «Good»: b. about 1319; d. London, 8 April 1364. He was the son of Philip VI of Valois and was a monarch distinguished alike for his incapacity and his misfortunes. In 1356 he was defeated and taken prisoner by the Black Prince at the battle of Poitiers, and detained at Bordeaux and at London till released at a heavy expense to his country by the Peace of Brétigny in 1360. On learning that his son, the Duke of Anjou, who had been left as a hostage in England, had effected his escape, he returned to London, where he died.

JOHN III (Sobieski), king of Poland: b. Olesko, Galicia, 2 June 1624; d. 17 June 1696. After receiving his education at home he traveled in France, England, Italy and Germany with his brother, returning in 1648 on his father's death. John Casimir appointed him standard-bearer to the Crown, and he distinguished himself in the war against the Russians and Swedes, which terminated with the Peace of Oliva in 1660. In 1669 Michael Koribut was chosen king on the resignation of John Casimir against a party who preferred Sobieski. On the death of Michael he was chosen king, 21 May 1674. A new war with the Turks was concluded after varying success by a peace, 27 Oct. 1676. The anarchy in which Poland was constantly kept by the turbulence of its aristocracy was aggravated during the reign of Sobieski by the intrigues of his wife, and his own talent for administration was not equal to his capacity as a general. Besides internal troubles, European politics at this time occupied the attention of Sobieski, whose alliance was solicited both by Lous XIV and the emperor. He at length concluded (31 March 1683) an alliance with the latter against the Turks, who had allied themselves with the malcontents in Hungary and threatened a most formidable invasion of the empire. Uniting with the Austrian forces 9 September, at the head of a combined force of 83,000 men, he inflicted a decisive defeat on the Turks and compelled them to raise the siege of Vienna, 12 Sept. 1683. He terminated the campaign with the capture of Gran (27 October), which had been in the possession of the Turks for nearly a century and a half. In 1686 he overran Moldavia and Wallachia, but failed to make a permanent conquest. Consult Tatham, 'John Sobieski' (Oxford 1881); Dupont, 'Mémoires pour servir à l'histoire de Sobieski' (Warsaw 1885); and Rieder, 'Johann III, König von Polen' (Vienna 1883).

JOHN, Claude Hermann Walter, English clergyman, educator and assyriologist: b. Banwell, Somersetshire, 4 Feb. 1857. He was educated at Queen's College, Cambridge University. He was second master of Horton College, Tasmania, 1880–84; Paston Grammar School 1885–87; tutor at Saint Peter's College, Peterborough, 1887–92. After his ordination in 1887, he was curate of several parishes, and until 1901 assistant chaplain of his alma mater and rector of Saint Butolph's, Cambridge, 1892–1909. He was Edwardes Fellow of Queen's College, 1903–09; lecturer on assyriology in the same institution, 1895–1909; also at King's College, London, 1904–10. Since 1909 he has been master of Saint Catharine's College, Cambridge. He has contributed largely to scientific journals and dictionaries dealing with subjects in assyriology and biblical archæology. His works include 'The Oldest Code of Laws in the World, the Code of Hammurabi' (1903); 'Babylonian and Assyrian Laws, Contracts and Letters' (1904); 'Ur-Engur — a Bronze of the Fourth Millenium' (1908); 'Ancient Assyria' (1912); 'Ancient Babylonia' (1913); 'Relations between the Laws of the Babylonians and the Laws of the Hebrew Peoples,' (The Schweich Lectures for 1912–14). He also delivered the Bohlen lectures on «The Religious Significance of Semitic Proper Names.» He edited 'The Old Testament in the Light of the Ancient East' by Alfred Jeremias (2 vols., 1911).

JOHN, yōn, **Eugenie** («E. Marlitt»), German novelist: b. Arnstadt, Thuringia, Germany, 5 Dec. 1825; d. there, 22 June 1887. She was the daughter of a portrait painter, and after pursuing the study of music at Vienna, lived at court for some years. She then returned to her native town and took up novel writing, using the pseudonym of «E. Marlitt.» Her works, which are very numerous, have

been translated into English by Mrs. A. L. Wistar, and have been very popular in this country. Among them are 'Gold Elsie' (1868); 'Old Mamselle's Secret' (1868); 'Countess Gisela' (1870); 'Princess of the Moor' (1872); 'The Second Wife'; 'In the Counsellor's House.'

JOHN, Griffith, Welsh Congregational missionary: b. Swansea, 14 Dec. 1831; d. 1912. He studied at Brecon College (1850–54), then at the Missionary College, Bedford, England. He was assigned to China (1855) by the London Missionary Society, residing, till 1861, at or near Shanghai, moving then to Hankow and becoming the first Protestant missionary in central China. He made numerous trips through the contiguous country, establishing a number of churches and mission stations. With the exception of two furloughs to Great Britain (1870–73 and 1881–82), visiting the United States during the latter, he continued his services in China till 1906, when his declining health forced his resigning from missionary work.

JOHN, Sir William Goscombe, Welsh sculptor: b. Cardiff, 1860. He studied at the City of London School of Art, Kensington and the Royal Academy Schools, taking the Royal Academy gold medal and traveling studentship (1889), when he went to Paris to study (1890–91), taking the gold medal at the Paris Salon (1901). A few of his principal works are statues of King Edward VII, at Cape Town; Prince Christian Victor, at Windsor; 7th Duke of Devonshire, at Eastbourne; the historian W. E. H. Lecky, at Trinity College, Dublin; equestrian statue of the Earl of Minto, at Calcutta. Among his best-known memorials are the Marquis of Salisbury, at Westminster Abbey and in Hatfield Church; Bishop Lewis and Dean Vaughan, in Llandaff Cathedral; Sir Arthur Sullivan, in Saint Paul's Cathedral; that dedicated to the Coldstream Guards and War Correspondents, in Saint Paul's Cathedral. His works in a lighter vein contain 'A Boy at Play,' in Tate Gallery; 'The Elf,' in Cardiff Art Gallery; 'Morpheus' and 'Saint John the Baptist,' in Liverpool Art Gallery. He was created a knight in 1911 and is a corresponding member of the Institute of France, and Royal Academician since 1909.

JOHN, Epistles of. Three short epistles in the New Testament traditionally assigned to the Apostle John. The first and longest contains no definite indication as to its author or destination. It lacks the usual epistolary introduction and closing salutation. Nevertheless, it is a genuine letter and from one author, on his own sole responsibility, in spite of the occasional use of the first person plural (e.g., in chap. i). Though the author speaks with authority on matters of the Christian faith, it is the authority of fatherly affection, rather than of official position, that is felt and asserted. The inference is that the author was an old man writing to a church or group of churches whose members looked to him for spiritual guidance and regarded him with deep affection. The general purpose of the letter was to urge and lead those addressed to a fuller realization of their fellowship with God through His Son Jesus Christ, the Word of Life. He argues and pleads for the sinless life (confession of sin, trust in the Divine grace, positive "walking in the light"), with special emphasis on love as absolutely essential. This can be realized only through a full acceptance of the great redemptive work of God in Christ and therefore a full confession of Jesus Christ, son of God, "come in the flesh" is indispensable. The letter aims at counterventing certain docetic and antinomian tendencies that were threatening to subvert the faith of those addressed. Linguistically and doctrinally 1 John has so much in common with the Fourth Gospel that the prevailing opinion is that it was from the same hand and for the same circle of readers. Evidence of its use from Polycarp (c. 110 A.D.) down is abundant and trustworthy.

The second and third epistles are very short letters and belong together. 2 John, addressed to a church (called "lady," Greek *κυρία*), is a message of affectionate admonition, warning against erroneous teachers ("anti-Christs"). 3 John, to Gaius, a member of the church addressed in 2 John, is of a more private and confidential character. Gaius is commended for his hospitality to itinerant missionaries. Diotrephes was probably the leading member of the church addressed in 2 John. The author, in both letters, calls himself "the elder," but does not give his name. Stylistically and doctrinally the relation of 2 and 3 John to 1 John is close, and identity of authorship is the most probable view. For literature see article on JOHN, GOSPEL OF.

EDWARD E. NOURSE.

JOHN, Gospel of. The fourth Gospel in the usual order of the New Testament writings. According to tradition, this gospel was written by the beloved disciple, John, in his old age, at Ephesus in Asia, near the end of the 1st century (90–100 A.D.). On this view, the gospel embodies the personal testimony of one of Jesus' most intimate disciples, and consequently is the most reliable and valuable of all the gospels.

To-day this traditional view is strenuously disputed. While the great spiritual value of the book is conceded, its apostolic authorship and independent or primary authority for the events of Jesus' ministry or for His teaching are denied. It is assigned to an unknown, though highly gifted, author, a Christian of Asia, who wrote in the early years of the 2d century, and was familiar with the earlier Christian literature (e.g., Paul's letters, and the Synoptics), but who felt that a new formulation of Christian truth was called for in view of the various doctrinal complications that threatened to undermine the faith of the Church. He therefore composed this "spiritual" gospel, in reality a profound doctrinal treatise rather than a gospel. The following discussion will attempt to set forth, as fully as space permits, the character of this gospel and the problem it presents for solution.

I. Contents.— Formally, at least, the plan of the gospel is simple. The purpose of the writer is plainly stated in xx, 30–31, and the book was planned to accomplish a result, namely, a *faith* in Jesus that issues in *life*. The writer sought to show why and how it is that belief in Jesus gives life, and unbelief results in death. The contents unfold simply and

naturally according to this ruling motive, as can be seen from the following brief outline:

Introductory section (the Prologue). The fact and significance of the incarnation of the Word (i, 1–18).

I. *The Beginnings of Faith. How Jesus won the first believers* (i, 19–iv, 54).
   1. The witness of John and the first followers from John's disciples (i, 19–51).
   2. The first "sign" at Cana (ii, 1–12).
   3. Manifestation of His authority at Jerusalem and Judea, resulting in (imperfect) faith on the part of many. The case of Nicodemus and additional testimony of John (ii, 13–iii, 36).
   4. The faith of the woman of Samaria and of the Samaritans (iv, 1–42).
   5. Return to Galilee. The second "sign" and its resultant faith (iv, 43–54).

II. *The Manifestations of Unbelief, culminating in the decision of the Jewish authorities to put Jesus to death* (v–xii).
   1. Jesus in Jerusalem cures a cripple on the Sabbath, and arouses the hostility of the Jews (v).
   2. In Galilee, at a Passover season, 5,000 fed. The day following the Jews refuse to believe Jesus' claim to be the Bread of Life. Many desert Him, but the Twelve remain faithful (vi).
   3. Again in Jerusalem, at Feast of Tabernacles, Jesus' claims rejected in extended debate by the Jews who are severely condemned for their unbelief (vii, 1–x, 21).
   4. In Jerusalem, at a Feast of Dedication, another instance of unbelief and hostility (x, 22–42).
   5. The Raising of Lazarus. In itself this was full proof of Jesus as "the resurrection and the life," but its effect on the Jews was to decide them to put Jesus to death (xi, 1–57).
   6. The final public presentation of Himself at the last Passover season. Incidents of belief and welcome. The author's reflections on the great act of unbelief, the rejection of Jesus by the Jews (xii, 1–50).

III. *Jesus' more complete and confidential revelation of Himself to His own* (xiii–xvii).
   1. The footwashing at the Supper and teaching based upon it (xiii, 1–20).
   2. Disclosure of the impending betrayal and of his separation from them (xiii, 21–38).
   3. Fuller teaching concerning His departure and concerning Himself and the Paraclete (xiv–xvi).
   4. The great intercessory prayer (xvii).

IV. *The Culmination of Unbelief, The Arrest, Trial, Condemnation, Crucifixion, Death and Burial of Jesus* (xviii–xix).

V. *The Victory — the raised and living Lord. Various appearances of the risen Jesus confirming the faith of the Disciples* (xx, 1–29).

Conclusion (xx, 30–31).

Appendix — The reinstatement of Peter and Jesus' saying concerning the beloved disciple (xxi).

The author states (xx, 30–31) that out of the many "signs" which Jesus did he had selected certain as calculated to produce faith. It is noteworthy that there are just seven such signs ((1) ii, 1–12; (2) iv, 43–54; (3) v, 1–10; (4) vi, 1–10; (5) vi, 16–21; (6) ix, 1–12; (7) xi, 1–44). That the author intended this number to be noticed and a *symbolic significance* to be attached to it is nowhere stated. If such a symbolic principle is assumed as intentional the book at once becomes full of subtle allusions, each alleged concrete fact being intended to suggest or teach some profound spiritual truth. On this principle the entire outline of the gospel can be converted into a theological program, the key to which is furnished by the prologue. This principle is accepted by many critics and dominates most of the modern critical interpretations of the gospel.

II. Relation to the Synoptics.— The contrast between the Fourth Gospel and the Synoptics is striking. There is a marked difference not only in respect to the general plan, but as to the details of Jesus' ministry, the style of His discourses and the content of His teaching.

Instead of an account of Jesus' birth and childhood, as in Matthew and Luke, we find the profound statement of the incarnation of the Word as the introductory section. In the Synoptics we have a narrative of the work of John the Baptist, his popular preaching, his prediction of the coming One, his baptism of Jesus. In our gospel John's *testimony* is the all important thing, testimony given to the official representatives of the Jews or to his followers. There is no account of John's ministry as such. Our gospel omits all reference to Jesus' temptation, but devotes considerable space to the way Jesus gained His first disciples and to a ministry in Jerusalem and Judea about which the Synoptics say nothing. The great popular ministry in Galilee to which the Synoptic account is chiefly devoted is all but omitted in our gospel. It is there as an indistinct background, while in bold relief we have the two visits to Jerusalem (ch. v and vii, 2–x, 21) of which the Synoptic account says nothing. Only in the case of the feeding of the 5,000 do the two accounts meet on common ground and here the differences are as prominent as the resemblances. While the Fourth Gospel, like the Synoptics, thinks of a ministry in Perea (cf. x, 40) and also, like them, follows this with an account of the events of Passion Week and of the resurrection appearances, it relates an almost entirely different set of incidents, and in the few identical cases the account itself is characteristically different.

The Synoptic account reflects the *popular* tradition, of a broad and general character, of Jesus' ministry. Our gospel covers only a few selected incidents and deals with these in a very intensive and personal way. The incidents are largely of a more private nature. Note, for example, chs. xiii–xvii, devoted entirely to one evening's intimate fellowship of Jesus with His disciples.

It would seem that the author of our gospel used the Synoptic outline, assuming it to be

well known, as a working basis, and tried to adjust his own very different account to this in such a way as to cause the reader, already familiar with the Synoptic account, no serious disturbance of mind. That he succeeded admirably everyone must admit. On points of chronology he was particular. The indeterminate length of the ministry in the Synoptic account is corrected by noting the feasts — especially three Passovers — which show that the ministry covered more than two years. The cleansing of the Temple is placed at the beginning instead of the end of the ministry. The opening of the ministry in Galilee did not follow *immediately* upon the recognition of Jesus by John (cf. i, 35ff., and iii, 24, with Mark i, 13, 14). The last supper was on *the night before* the Passover and Jesus was crucified on the feast-day itself, not a day later, as in the Synoptics.

As to the *style* of Jesus' discourse there is a very remarkable difference between our gospel and the Synoptics. The parables are absent, although Jesus speaks in figures. In the Synoptics Jesus usually talks in a popular, simple, straightforward way and the common people hear Him gladly or with interest. In our gospel Jesus' speech is allusive, obscure, figurative, perpetually provoking question as to His meaning, even when speaking most confidentially to His disciples. The subjects of His discourse are not the same. In the Synoptics Jesus talks only rarely about Himself, mainly about conduct, morality, religion in the broad sense and the life it calls for. In our gospel His subject is mainly Himself: His significance, His relation to the Father, belief in Him, etc. In the Synoptics, His audience is usually the masses — the common people to whom He ministered as a physician to the sick with His "good news" of the Kingdom. In our gospel His audience is usually either some isolated individual, or the (hostile) "Jews," or His disciples.

Finally, our gospel differs from the Synoptics in that it is very definitely a *theological* writing, which cannot be said of the other gospels. The gospel opens with a section that is doctrinal in the fullest sense, a section which no one but a profound theologian could have composed. And throughout the work, in apparently simple language, doctrines of highest importance are set forth. Nothing like this is found in the Synoptics.

The facts mentioned thus far are patent to all. No theory of the gospel's origin can be accepted that fails to give a reasonable explanation of them.

III. Internal Evidence as to Authorship. — Turning now to the question of authorship, we shall consider first the *internal* evidence. That is, what evidence, explicit or unintentional, does the book furnish as to its author, or the time and place of its composition.

Explicit statements are few and not definite. Such are i, 14f, "*we* beheld his glory," "of his fulness have *we* all received," and xix, 35, "He that hath seen (the blood and water) hath borne witness." To whom do "we" and "he" refer? Is there here a claim or assertion by the author that he was a personal disciple of Jesus? Such seems to be the view of xxi, 24, but this is in the appendix, the authorship and date of which is a problem by itself. We also find hints concerning a disciple, indefinitely indicated as present (i. 35–42), at other times designated as the disciple "whom Jesus loved" (xiii, 23; xix, 26; xx, 2), or simply as "the other disciple" (xviii, 15; xx, 4, 8). So far as our limited knowledge of the Apostolic Age permits a judgment, these allusions can refer to but one individual, the Apostle John, one of the three "pillars" (Gal. ii, 9) and one of the three disciples closest to Jesus (Mark ix, 2ff. and ||s; xiv, 32ff. and ||s). In the passages cited it is not expressly claimed that the unnamed disciple was the author of the gospel or the main source of its contents, but xix, 35, taken in connection with verses 25 and 26, implies this, and such is the view of ch. xxi (cf. v. 24).

It is entirely in harmony with such a claim that our gospel assumes an intimate acquaintance with the minute details of Jesus' ministry, —the very hour when events took place, how He sat "thus" on the well-curb, details of topography, etc.,— and with the Judaism of the time when Jesus lived. It will probably be conceded by every impartial critic that no serious error has been proved against the gospel. The alleged anachronism in the name "sea of Tiberias" collapses in view of Josephus' similar, although not exactly identical, expression in his history of the Jewish War (iii, 3, 5; iv, 8, 2) written between 75 and 79 A.D. The alleged scientific objection to the "blood and water" (xix, 34) is shown to be baseless by Sir A. R. Simpson, M.D., in 'The Expositor,' 1911, Vol. II, pp. 300 ff. Many apparent improbabilities, indeed, suggest themselves, but these are not proofs that the work does not rest upon the testimony of an apostle or eyewitness.

Such, in general, seems to be the claim or assumption of the book itself, and it has been commonly received for centuries as guaranteeing apostolic authorship. But the book also gives other evidence regarding itself on which the chief stress is laid to-day by many critics and which, it is claimed, makes it impossible to hold to apostolic authorship, and necessitates a date not earlier than the first decade of the 2d century. Very briefly stated this evidence consists in the distinctly *theological* character of the Fourth Gospel and especially in the mature and developed type of its theological conceptions. The use made explicitly in the prologue of the Logos-idea and implicitly (it is claimed) throughout the book, which ever has in mind the Logos-Christ; the central significance assigned to the person of Christ, the (Logos) Son, the revealer of the Father and imparter of eternal life to those who come to know Him; the highly spiritualized eschatology in contrast to the realistic type of the Synoptics; and in general the indications that the author was familiar with and had assimilated the main Pauline doctrines, but had sought to modify or complete them in certain important respects,— such facts, it is claimed, point decisively to some one of the post-apostolic generation as the author. It is also claimed, and not without reason, that the author had in mind certain Docetic and Gnostic errors which he attempted to refute, errors that were particularly prevalent and dangerous in the first decades of the 2d century. Admitting the correctness of these observations, the problem is, do they *decisively prove* that the gospel could not have been written by the Apostle John?

Arguments drawn from the *structure* of the book are of uncertain value. In both style and structure the gospel is unique and amenable to no rule. Certain sections, as chs. v and vi and chs. xv and xvi, appear to have been shifted from their original positions, but minute study reveals so many instances of abrupt transitions, of broken or interrupted narrative or discourse, and of unexplained situations that the simple hypothesis of misplaced sheets (of the original MS.) will not suffice. It is a case either of extensive editing by a later hand of a document originally shorter and more orderly than our present gospel, or of a work unique in character and quite careless of ordinary rules of composition. If it is a case of editing, the task of ascertaining the scope and order of the original (apostolic?) material is a hopeless one.

One must admit, therefore, that the internal evidence, drawn from the book itself, is not clear, either as to its date or author. It seems to claim an eyewitness of Jesus' ministry, even a "beloved disciple," as its author. On the other hand, the quality of its theology and the stage of theological development and the character of the theological controversies presupposed in the book seem to indicate a date when authorship by an apostle becomes very questionable. Its other internal characteristics are not decisive.

IV. The External Evidence.—The testimony of early Christian writers after about 160 A.D. is practically unanimous as to the early date and Johannine authorship of the gospel. Even the sole known exception, the small and obscure group in Asia Minor, later called the Alogi, with possibly the Roman presbyter Gaius, did not dispute the early date, though they asserted that the gnostic Cerinthus was its author. Such writers as Theophilus of Antioch, Irenæus of Lyons, Clement of Alexandria and Tertullian of Carthage assumed that the Johannine authorship was indisputable. They knew of no other tradition. But as our inquiry is pushed back toward the beginning of the 2d century traces of the use or knowledge of the gospel become increasingly uncertain. It must be remembered, however, that the same thing is measurably true of each one of the Synoptics, especially Mark, the oldest gospel of all. Justin Martyr (140–50 A.D.) almost certainly used our gospel as the work of the Apostle John. Ignatius of Antioch (110–17 A.D.) was acquainted with its type of thought and may have read it. Both Papias (c. 140 A.D.) and Polycarp (110–17 A.D.) made use of 1 John, which speaks for rather than against their knowledge of the gospel, but this is all that can be said with confidence. The evidence that Basilides, the Egyptian Gnostic (c. 130), used our gospel is strong, though not free from uncertainty. That I Clement, written in the West, at Rome, about 96 A.D. contains no allusion to this gospel is not surprising. In case the gospel was written in Asia between 90 and 100 A.D. a reasonable time must be allowed for it to have become generally circulated and known as familiarly as the older gospels were. When this is taken into consideration the evidence for the gospel compares very favorably with that in favor of Mark, for example.

The reliability of the tradition that the Apostle John lived "to the times of Trajan" (98–117), as it is expressed by Irenæus, and that the later part of his life was spent in Asia (Ephesus) has been emphatically disputed by many critics, especially since DeBoor proved from newly-discovered evidence that Papias probably said something about John being put to death by the Jews. But the exact wording of Papias' statement has not been recovered, nor the context to which it belonged. Until we have more than only a few fragments of Papias' work in our hands, we shall not be able to base any conclusions on what he may have said or meant. Irenæus' testimony as to how he himself, in his youth, heard Polycarp of Asia speak of his intercourse with the Apostle John is positive and cannot easily be brushed aside. Then there is the obscure figure of an "Elder" named John, spoken of by Papias, who may have become confused, even as early as c. 140–50 A.D., with the Apostle John.

V. Conclusions.—The decision of the critical question is, it is evident, beset by great difficulties. The external evidence, while on the whole favorable to Johannine authorship, is not strong enough to be considered decisive. The internal evidence is conflicting. It is both for and against the traditional view. Each of the opposing views can be supported with forcible arguments, and a decision will probably be found to rest mainly on one's personal equation.

No one knows (historically) when the Apostle John died, nor where or how he spent his last years. No one knows what were his mental and spiritual gifts. No one can say that he could or could not have written such a book as the Fourth Gospel. But these things are practically certain: the Fourth Gospel must have been composed *after* the Synoptic tradition was generally accepted. It was composed by one who was richly endowed with spiritual insight, who had a profound Christian experience, and who had thought deeply on some of the greatest problems of theology and was able to discuss or state them in marvelously simple and concise language. Can any one say positively that an aged apostle could not have planned deliberately a "spiritual" gospel in which the words and deeds of Jesus were to be treated symbolically rather than literally?

However the problem of authorship may eventually be solved, the fact remains that in the Fourth Gospel the Christian Church possesses a treasure of priceless worth. To the spiritually minded of all the Christian centuries this gospel has ministered more effectively, probably, than any other New Testament Book. It has spoken untold comfort to the troubled and sorrowing. A mystic influence emanates from it and under its spell God and eternal life become realities of experience. Whoever wrote it had sounded the depths of the revelation of Christ. Through its influence the early Church was enabled to clarify and unify its faith, and realize the full significance of the gospel in an age when subtle speculations threatened to strangle its life and confuse its mind.

Bibliography.—The literature on the Fourth Gospel (including usually a consideration of the Epistle of John) is extraordinarily extensive and cannot be listed here. The most serviceable recent list will be found in Moffat's 'Introduction to the Literature of the New Testament' (New York 1915). Of special importance are the following: Zahn, 'Introduction to the New Testament' (Vol. III, Edinburgh

1909); Feine, Paul, 'Theologie des neuen Testaments' (2 Aufl. Leipzig 1910, pp. 514–631); 'Encyclopædia Biblica' (Vol. II, New York 1901, articles "Gospels" and "John, Apostle"); Bacon, B. W., 'The Fourth Gospel in Literature and Debate' (New York 1910); Stanton, V. H., 'The Gospels as Historical Documents' (Part I, Cambridge 1903); Sanday, W., 'The Criticism of the Fourth Gospel' (New York 1905); Drummond, J., 'The Character and Authorship of the Fourth Gospel' (London 1903); Scott, E. F., 'The Fourth Gospel' (Edinburgh 1906); 'Cambridge Biblical Essays' (New York 1909, pp. 251–329); Findlay, G. G., 'Fellowship in the Life Eternal' (on 1 John, London 1909); Latimer, Jackson, 'The Problem of the Fourth Gospel' (Cambridge 1914).

EDWARD E. NOURSE,
Professor of Biblical Theology, Hartford Theological Seminary.

JOHN, Order of Saint, a military religious order of mediæval origin. The Knights Hospitallers of Saint John, subsequently known as Knights of Rhodes, and lastly as Knights of Malta, were once a great power in Christian Europe. The origin of the order is unknown, but most probably it was early in its history that a rich merchant of Amalfi built not far from the Holy Sepulchre at Jerusalem a certain church known as Santa Maria della Latina, with a monastery for monks, under the rule of Saint Benedict, and a hospital for pilgrims. The first patron of the order seems to have been Saint John the Compassionate, patriarch of Alexandria in the 7th century. Afterward Saint John the Baptist was chosen patron, and the Benedictine brethren assumed the title of Johannites, or Brothers Hospitallers of Saint John. Pope Paschalis II in 1113 gave them the privilege of electing their own rector. Later, in addition to the vow of poverty, chastity and obedience they were pledged to make war upon the infidels, and assumed a black cloak with a white cross on the left side. The members were divided into three classes, knights of noble birth, the fighting class, priests bound to the service of the Church, and brethren of service who took care of the sick and acted as guides to the pilgrims. In 1291 the order was driven from Palestine by the conquests of the Saracens, and after holding Cyprus for a time they occupied Rhodes in 1309, from which they were ultimately driven by Sultan Soliman II in 1522. After that the knights retired to Candia and other places, but finally to Malta, which Charles V granted them in 1530. Here they continued to be a bulwark of western Europe against the Turkish navies till modern times. The chief of this order, which had great possessions in almost every part of Europe, was called "Grandmaster of the Holy Hospital of Saint John of Jerusalem, and Guardian of the Army of Jesus Christ." He lived at Valetta, in the island of Malta.

The military duty of the knights consisted in taking the field at least three times against the Turks or the pirates of Barbary. In war they wore a red jacket or tabard, charged with a white cross. In 1798 Malta was unexpectedly attacked and taken by Bonaparte, and about the same time the extensive properties belonging to the order in various countries were confiscated. This may be considered the end of the order as a vital institution, although shortly after the capture of Malta, Paul I, who had been chosen grand master, took the order under his protection, and it still exists nominally at least. After the death of Paul the nomination of the head of the order was vested in the Pope.

JOHN, Saint. See SAINT JOHN.

JOHN OF AUSTRIA, commonly called **DON JOHN OF AUSTRIA,** Spanish general: b. Ratisbon, Bavaria, 24 Feb. 1547; d. near Namur, Belgium, 1 Oct. 1578. He was an illegitimate son of the Emperor Charles V by Barbara Blomberg. In 1550 he was sent to Spain where he was brought up under the care of Don Luis de Quijada at Villagarcia near Valladolid. The will of Charles V recognized him as his son and recommended him to Philip II, who created him a prince of the house of Austria. In 1568 he was placed in command of a squadron which fought the Barbary pirates, and in 1569 undertook the suppression of the Morisco rebellion in Andalusia, in which he was most successful. In 1570 he conducted a campaign against the Moors of Granada with great vigor and relentlessness, and in the following year commanded the allied fleet which won the great naval battle of Lepanto over the Turks (7 Oct. 1571). In 1576 he was appointed governor of the Netherlands, and had won with the Prince of Parma the victory of Gemblours (1578) over William the Silent, when he died suddenly, not without suspicion of having been poisoned by his jealous half-brother, Philip II, but for this belief there is no evidence. Consult Motley, 'The United Netherlands' (New York 1900); Stirling-Maxwell, 'Don John of Austria' (1883).

JOHN THE BAPTIST, the "forerunner" of Jesus the Christ. He was the son of Zacharias, a Jewish priest, whose wife, Elizabeth, was also of a priestly family. The dates neither of his birth nor of his entrance on his public work can be fixed with unmistakable certainty. For his birth, dates varying from 8 to 4 B.C. have been proposed, and the beginning of his ministry must have been about 26 to 28 A.D. According to Luke he was born when his parents were extremely old, and the evangelist adds a story of great beauty about the vision of Zacharias while engaged in his priestly duties in the Temple, and the visit to Elizabeth of her relative Mary, the Virgin Mother of Jesus. Of the life of John before he steps out into public activities we know little. The home of his parents was in one of the hill towns of Judea, but there is no good ground for naming any particular city, as has sometimes been done. From his birth he had been dedicated as a "Nazarite," that is, he was under obligation to allow his hair and beard to grow untrimmed, to refrain from all use of wine and other intoxicants, and especially to avoid every contact with a dead body. He seems while still young to have decided not to take the honored office of priest which would have been his by hereditary right and to have withdrawn to the desolate and lonely desert of Judea, which the presumably early death of his parents would leave him quite free to do. There he lived with the utmost simplicity, dressed in a robe of coarse camel's hair cloth

and eating the locusts and wild honey which abounded in that wild region to the west of the Dead Sea. The notion that he was associated with the Essenes, ascetics dwelling in communities in the desert, though earlier held by some, has nothing in its favor and has now scarcely any advocates.

It is not surprising that when John suddenly began to preach he aroused wide and deep interest amounting to general enthusiasm at first throughout Judea, and then elsewhere as he extended his ministry along the whole Jordan Valley. The very figure of the gaunt and meanly clad desert dweller must have been striking; his vehement warnings against sin and demands for thoroughgoing repentance were most impressive, and these were re-enforced by the assertion that the prophecies of the King and divine kingdom to come which had so long sustained the faith and rekindled the hopes of Israel were now near to fulfilment. Never had the summons to repentance been so vehement, and never had it been re-enforced with such a motive, "The expected King will speedily set up his promised kingdom of righteousness: repent, therefore, that by righteousness the nation may become fit to receive its King." Throngs of all classes of society flocked to listen to hear the trumpet message of the desert evangelist, and multitudes were plunged in baptism beneath the waters of the Jordan in token of their obedience to his message, pledging themselves as penitents to the service of the "One who was to Come."

But the most significant point in the ministry of John was reached when Jesus came from Nazareth and in spite of protestations insisted on baptism at his hands. The details of the event are not fully recorded. The later statement of the Baptist that he had not known Jesus before his baptism may mean only that before that he had no grounds for definitely recognizing him as the Messiah whose coming he was foretelling, or it may mean that in spite of their possibly remote cousinship John and Jesus had had no previous personal acquaintance at all. The hesitation of John to baptize Jesus may have rested on earlier knowledge of his character, but it may also have developed at the first interview. It is frequently assumed that the heavenly sight and sound which we are told accompanied the baptism were shared by the crowds who are supposed to have been present, but this is nowhere asserted, nor indeed is it necessarily implied that any others than John and Jesus were present at the time. The Synoptic Gospels deal chiefly with the work of John up to the baptism of Jesus, while the Fourth Gospel gives his testimony to Jesus afterward, and so there is no such inconsistency between the reports as is sometimes said to exist. According to the Fourth Gospel, which purports to be by the Apostle John, possibly a relative of the Baptist and at any rate one of his followers, the impression made by the baptismal scene was such that he was convinced that the Messiah had now come, and while he did not modify his preaching, leaving it to Jesus to reveal himself in his own way, he privately pointed him out as "The Lamb of God who should bear away the sin of the world," and some of his disciples consequently at once transferred their allegiance to Jesus.

That after this clear recognition John sent some of his disciples to seek from Jesus an explicit assertion of his Messiahship has sometimes been explained as due to a desire to obtain confirmation of the faith of these disciples, but the answer of Jesus makes it probable that it was due to some lack, at the time at least, of positive conviction in John's own mind, perhaps because the method of Jesus in presenting himself to the nation was not what John had expected, an uncertainty very probably intensified by the depression which his imprisonment may be presumed to have caused or intensified. But in the discourse which followed Jesus took occasion to eulogize John as greater than any of the prophets, as the greatest man who had ever lived.

After his recognition of Jesus as the One for whom he was preparing the way, John continued his work for a time, perhaps for some months, presumably with the feeling that the people still needed in mind and life the work which he had been doing. But his fidelity to his mission as a preacher of repentance and right living soon cost him his liberty and in the end his life. Herod Antipas, the ruler under Rome of Galilee and Perea, had taken to himself the wife of his brother Philip. This doubly adulterous connection John denounced openly and apparently to Herod's own face, having perhaps been summoned by him to preach at court. This aroused such a fury of hate, especially in Herodias, the woman in the case, that John was imprisoned in the fortress of Machærus near the Dead Sea, in the ruins of which marks of fetters may still be traced on the walls of the dungeons. Finally after perhaps months of hesitation on the part of Herod, by the shameful artifice of allowing her daughter Salome actually to appear as a dancing girl before Herod and his guests at a feast, he was induced to swear that he would give the girl whatever she asked, and when she demanded in fulfilment of this rash promise "The head of John the Baptist on a platter at once," he was beheaded in the prison and the head was carried to Herodias, who is said to have wreaked her fury on the inanimate object of her hate. There seem to have been for years groups of men who were known as disciples of John the Baptist, but with this tragedy his great influence ended, for though, as Jesus called him, he was "a light that burned and shone," yet as he himself said in his forecast of his relation to Jesus, "He must increase, but I must decrease."

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DAVID F. ESTES,
Professor of New Testament Interpretation, Colgate University.

JOHN BROWN'S BODY, a famous marching song of the Civil War, the origin of which has for years been in dispute. It has been generally credited to C. S. Hall of Charlestown, Mass. (1861). The words were applied

to an old tune common in England in the 18th century.

"JOHN BULL," a popular nickname or sobriquet applied to England or to its citizens. In 1712 Dr. John Arbuthnot (q.v.) wrote a political allegory entitled the 'History of John Bull.' It was designed to ridicule the Duke of Marlborough and to render the Continental War then raging unpopular. Aside from its immediate object, it is one of the best humorous compositions in the English language. Each of the European nations had a designation in the work; the French were "Lewis Baboon," the Dutch, "Nicholas Frog," etc. The sturdy English yeomen and the English public in general were amused with the apt cognomen in spite of the satire intended, and it was adopted by the people with such hearty good will that it has been popular ever since in all parts of England.

JOHN THE CONSTANT, Elector of Saxony: b. 30 June 1468; d. Schweidnitz, 16 Aug. 1532. He was fourth son of Elector Ernst and lived during youth at the court of his great-uncle, Emperor Frederick III. He took part in the campaigns of 1494 and 1499 and succeeded his brother, Frederick the Wise (1525), as Elector, declaring himself emphatically in favor of the Reformation. In 1526 he joined the Torgau Union hindering the agitations of the followers of the old faith and placing his coreligionists in the position to form a unanimous party at the Diet of Speyer. Using the power given him over Church matters he instituted (1527-29) visitations throughout his domain of the Evangelical State Church of Saxony. In 1530, at the Diet of Augsburg, he opposed the emperor fearlessly on the question of the confession. In 1531 he united the Protestants in their defense with the Schmalkaldic League.

JOHN CRERAR LIBRARY, The, a free public library, established in Chicago, Ill., in 1894, in accordance with the provisions of the will of the late John Crerar. Mr. Crerar, a prominent merchant of the city, had no near relatives and left $600,000 in personal bequests, nearly $1,000,000 to many of the charities of the city and the remainder of his estate, then valued at not quite $2,500,000, to the library. In 1917 the library had a total income of $235,000, of which $33,000 were spent for the increase of the library, $42,000 for rent, $83,000 for maintenance and $41,000 set aside for a building fund. Land has been purchased at the northwest corner of North Michigan avenue and Randolph street, opposite the Chicago Public Library, and plans have been prepared for an 11-story building of Romanesque style. A portion of the site will be occupied as temporary quarters until circumstances permit building. By agreement with the other public libraries of the city, the library limits its scope to the sciences and useful arts. The field is defined and the development attained is indicated by the following statement of the departments established and the number of bound volumes in each on 1 June 1918: Social sciences, 103,035; physical sciences, 30,345; natural sciences, 37,079; medical sciences, 71,869; applied sciences, 77,795; general works, 53,233. Such a library of course attracts special classes of readers: of these, physicians are the most numerous, engineers second, chemists third and teachers fourth. The library is especially strong in sets of periodicals and society transactions and also contains special collections on aviation, cremation, eye and ear and medical history.

JOHN OF DAMASCUS, Saint; also known as JOHN DAMASCENE and JOHN CHRYSORRHOAS ("gold-streaming" — eloquent), the last of the Greek fathers: b. Damascus toward the end of the 7th century; d. about 753. The son of a Syrian Christian bearing the Arabic name of Mansur, who held a government office in Damascus under the Saracen Caliph Abdul Malek, John received an excellent education in theology and philosophy from an Italian monk named Cosmas, a prisoner of war in Saracen hands. All that is known of the life of John is derived from a scanty biography written in the 10th century by the patriarch John IV of Jerusalem, who culled his material from an earlier Arabic biography. The "life" is embroidered with some fabulous details, including the famous legend of his right hand being cut off by order of the Greek emperor, and afterward miraculously restored. About 730 A.D. John sold his property, gave the proceeds to the poor and buried himself in the monastery of Mar Saba (Saint Sabas), between Jerusalem and the Dead Sea. His greatest theological work is the 'Fountain of Knowledge,' a systematical theology founded on Aristotelian metaphysics and the writings of Leontius of Byzantium. For a short time he officiated as priest in the church at Jerusalem, but returned to the monastery to devote himself to writing. His zeal for image-worship brought him into conflict with the iconoclasts, against whom he indited three essays or diatribes, between 726 and 736. These excited much discussion and criticism. Included in his works is an essay in defense of image-worship, addressed "to all Christians and to the Emperor Constantine Caballinos and to all Heretics," which is not regarded as genuine. He died in the monastery and was buried there; the body is said to have been removed to Constantinople in the 14th century. The most authoritative theologian of the Eastern Church, he is honored as a saint in both the Greek and Latin churches. The biography referred to above was published in Rome 1553, and an edition of his works — in Greek and Latin — by Father Lequin, appeared in Paris in 1712 and was reprinted in Verona in 1748.

JOHN DOE, a fictitious name given to unknown plaintiffs or defendants in law. In former times the name was applied to the fictitious lessee of the plaintiff in the mixed action of ejectment, that of the fictitious defendant being "Richard Roe."

But if the lessor made out his title in a satisfactory manner, then judgment and a writ of possession were awarded to John Doe, the nominal plaintiff, who by this trial had proved the right of John Rogers, his supposed lessor.— Blackstone.

JOHN DORY. See DORY.

JOHN THE FEARLESS, or **SANS PEUR,** DUKE OF BURGUNDY: b. 1371; d. 10 Sept. 1419. He was son of Philippe the Bold and joined King Sigismond of Hungary with the French army for the crusade against the Turks. He was taken prisoner (1396) at the battle of Nikopolis and was released on pay-

ment of a ransom of 200,000 ducats. He became Duke of Burgundy (1404) on his father's death. He was adverse to the extravagant Duke of Orleans, and, greatly provoked by the latter, brought about his assassination (1407), thereby rising to leadership in the state and to the rearing of the Dauphin. This gave rise to civil strife on the part of the Orleans adherents, and the lawless actions of the pro-Burgundian Paris mob — the *Cabochiens* — led (1413) to John's downfall. Henry V of England (1415) becoming his ally, he captured the capital (1418) with severe reprisals. Called by the Dauphin Charles for an interview he was murdered (1419) on the bridge crossing the Yonne near Monterean.

JOHN OF GAUNT, gänt or gânt, DUKE OF LANCASTER, English soldier: b. Ghent, Flanders (whence his name), 1340; d. London, 3 Feb. 1399. He was the fourth son of Edward III and his queen, Philippa of Hainaut. He was created Duke of Lancaster in 1362; served in the French wars, and became governor of Guienne. He assumed in right of his wife the title of king of Castile, invaded that kingdom to assert his claims, but relinquished them in favor of Prince Henry of Castile, his son-in-law. He was a supporter of the reformer John Wiclif, and a patron of the poet Chaucer. Shakespeare introduced him as a prominent figure in the play of 'Richard II.' His eldest son, Bolingbroke, became king of England as Henry IV. Consult Longman, 'Life and Times of Edward III' (1869); Trevelyan, G. M., 'England in the Age of Wycliffe' (2d ed., 1899).

JOHN GILPIN, or in full "The Diverting History of John Gilpin showing how he went farther than he intended and came safe home again," is a famous humorous ballad by William Cowper, written about October 1782 and printed anonymously the next month in the *Public Advertiser*. The runaway adventure it describes is said to have happened to a certain John Beyer, linen draper, and the name John Gilpin is thought to have been taken from a tombstone in Saint Margaret's, Westminster. It is more certain that the story was told Cowper by his friend, Lady Austen, in order that she might relieve him in one of his periods of gloom. He is said to have been so amused that he could not sleep until he had got out of bed and written down some of the stanzas as they had come to him. Then he polished and added, sending portions across the street for the approval of a jocular barber friend. When published, the poem made its way fairly well, but it broke away like Gilpin's horse and got its great start toward its unbounded popularity through the recitations of it given in 1785 by the actor Henderson. The same year it was included in the same volume with 'The Task,' and doubtless helped to make that a success. It has never since declined in popularity, and one fails to see how it ever can, so long as people display a propensity to laugh at the not clearly dangerous misadventures of others, and so long as a free natural style and a genuine fund of humor varying from arch to almost rollicking are as rare as they seem to be among literary gifts.

WILLIAM P. TRENT.

JOHN HALIFAX, GENTLEMAN, a novel by Dinah Maria Muloch Craik, in which the hero, John Halifax, one of "nature's noblemen," beginning life as a poor boy, works his way up to prosperity and happiness, by means of his high principles, undaunted courage and nobility of character. The heroine is Ursula March; and the simple domestic story includes few minor characters. The interest lies in the development of character: and the author's assertion is that true nobility is of the soul and does not inhere in wealth, in learning or in position; and that integrity and loftiness of purpose form the character of a true gentleman.

JOHN INGLESANT, by J. Henry Shorthouse, a well-known novel first published in 1881 belongs to the type of fiction represented by Kingsley's 'Hypatia' and Pater's 'Marius the Epicurean.' The author called it a "philosophical romance," designing it to be a means of presenting philosophy under the guise of fiction. The method is generally that of Reade's 'The Cloister and the Hearth,' by which is unrolled a panorama of the life of a period in various lands. 'John Inglesant' is, however, concerned far less with a brilliant picture of personalities and customs in many countries than with expositions of dominant religious and political ideas. The hero from whom the book takes its name is the descendant of a family established and enriched during the religious transformations of Henry VIII, but his own time is that of the Commonwealth. Educated under the influence of a Jesuit with a view to future services to the Roman Church, he becomes an important member of King Charles's *entourage* and as such not only sheds his blood in the Royalist cause but meets representatives of nearly all the English factions and sects. As a confidential emissary of the king, he barely escapes suffering his master's fate. On his release from two years' imprisonment he goes to France, where he mingles with the Royalist refugees and becomes acquainted with important types of French religious thought. An important mission leads him to Italy, where he remains for several years, influenced by and influencing, as well as merely observing, the intricate play of religious politics and faiths, of character and custom, until his final return to England. Throughout the chief end of the novel is to represent a cross-section in several countries of a dominant interest and to expand various views, to such a degree, indeed, that the personal characters are very much obscured and the people become rather types and mouthpieces than individuals.

WILLIAM T. BREWSTER.

JOHN OF LEYDEN, lī'dĕn. See ANABAPTISTS.

JOHN OF NEPOMUK, or **POMUK,** patron saint of Bohemia: b. Nepomuk, about 1330; d. 20 March 1393. He is considered as the protector of those falsely accused and of those in danger of drowning. He is said to have been made master of arts at Prague after being consecrated to the priesthood. There is very much difference between the accounts that have come down to us concerning the life of this saint and but little reliable historical facts. There are even claimed to be two personalities embodied in the legendary incidents at hand.

He was preacher in the Teynkirche at Prague, soon thereafter elevated to canon of Saint Veit's, then provost of All Saints'. Later he was appointed almoner of King Wenceslas IV and father confessor of Queen Johanna. For refusing to divulge the queen's confessions in spite of the king's threats and after all tortures had failed to extract the secrets of the confessional, he was, on the eve of Ascension Day 1383, thrown into the river Moldau. History also tells of a John of Nepomuk drowned by Wenceslas from which the legend borrows some features. One fact is assured, that he was killed 20 March 1393 for differences of opinion in Church politics. The fact that Benedict XIII, in 1729, canonized a man whose existence is not provable gave Schmude, in his 'Geschichte des Lebens und der öffentlichen Verehrung des ersten Märtyrers des Beichtsiegels' (Innsbruck 1883), the idea that there were two Nepomuks. Abel attempts to make this saintly episode an allegory of the heretical Hus. The legend has given rise to the symbolic emblem of a padlock on the lips of a figure being used as representative of this saint in art. Consult Frind, 'Der geschichtliche Johannes von Nepomuk' (2d ed., Prague 1871), and 'Der heilige Johann von Nepomuk' (ib. 1879); Reimann, in Sybel's *Historische Zeitschrift* (Vol. XXVII).

JOHN NEPOMUK SALVATOR, Archduke of Austria and Prince of Tuscany: b. Florence, 25 Nov. 1852; d. —— 1891. He was the youngest son of Archduke Leopold II of Tuscany, became colonel (1876) with command of a regiment at Komorn, then (1878) commander of an infantry brigade at Vienna; then mayor-general, commanding a brigade in the army of occupation at Bosnia. In 1879 he was commander of a division, and was transferred to Lenz (1883–87), commanding the 3d division, as a disciplinary measure for publishing his 'Drill oder Erziehung' (Vienna 1883) criticizing the leaders of the army. He was suddenly deprived of his command in consequence of his arbitrary claim to the Bulgarian throne. In 1889 he resigned every dignity and rank and took the name of Johann Orth, from the title of his castle near Gmunden. He then went abroad and, having passed his examinations as ship's captain, he purchased, equipped and manned a merchantman, the *Margerita,* and sailed from Hamburg for South America. It is generally conceded that he suffered shipwreck on the coast of South America and lost his life, not a soul, however, surviving to corroborate the fact. Legendary stories of his living with his brother Archduke Ludwig Salvator of Tuscany at Majorca and other fabrications have been denied by those best able to know. He also wrote 'Betrachtungen über die Organisations der österreichischen artillerie' (Vienna 1875); 'Geschichte des kaiserlich-königlichen Linien-Infanterieregiments Erzherzog Wilhelm Nr. 12' (ib. 1877–80, 2 vols.). He wrote the text for the ballet 'Die assassinen,' and wrote adversely of spiritualism in 'Einblicke in den Spiritismus' (Linz 1885, 5th ed.). Consult Heinrich, 'Erzherzog Johann, mit Beiträgen zur Geschichte der Begründung der Zweiten Dynastie Bulgariens' (Vienna 1901).

JOHN O'GROAT'S HOUSE. In the reign of James IV of Scotland, about 1489, John of Groat, or Groot, from Holland, settled on some land on Duncan's Bay Head, the most northerly point in Great Britain and was followed by a number of brothers. This would appear to be historic fact as descendants of the Groats still live in these parts. The mythical part of the story has two versions. One of these states that there were seven brothers who came from Holland to join John and consequent disputes arose as to family precedence, which induced John to build a house of octagon shape having one room, eight windows and eight doors, and containing an octagonal table. This permitted each branch of the family to enter by its own particular door and sit at its own particular part of the table, and left no room for dispute as to precedence of entry or place at table. The other version declares the disputants were eight sons of John O'Groat and they caused him to invent this form of structure to dispel the trouble. The foundation stones and lines on a green hummock are all that remains of the building; a hotel, erected nearby, with an octagonal tower commemorates the name since 1876. Burns mentions "frae Maidenkirk to Johnny Groat's." The phrase "from John O'Groat's to Land's End" is a term long in use expressive of the entire length, 994 miles, of Great Britain which is included in these two geographical extreme locations at the most northerly and the most southerly points.

JOHN THE PARRICIDE, known also as **JOHN OF SWABIA:** b. 1290; d. about 1313. He was son of Duke Rudolph II of Swabia, brother of the German Emperor Albert I and was reared in the Bohemian court. He demanded, when he became of age, a share in the Hapsburg domain, and, upon refusal by his uncle, he took a vow, spurred on by the archbishop of Mainz, against the king's life. While Albert was crossing the Reuss (1 May 1308) near Rheinfelden he, together with three knights, forced his way on to the vessel and, separating the king from his retinue killed him on the opposite bank of the river. He and his companions were outlawed and pursued vigorously till he took refuge in a monastery, becoming a monk. His end is unknown, but there is a story that he died, in monk's garb, repentant (1313) at the feet of Emperor Heinrich VII at Pisa. Schiller makes use of this character in 'Wilhelm Tell.' Consult Mücke, 'Albrecht von Hapsburg' (Gôtha 1866).

JOHN PAW, a large and beautiful grouper (*Epinephelus Drummond-Hayi*), which is dark umber brown densely covered with small white pearly spots. It inhabits the Gulf of Mexico and is valued as a good fish in Florida. It is also known in the Bermudas, where it is called "speckled hind."

JOHN OF SALISBURY, English historian and prelate: b. Salisbury, about 1120; d. 25 Oct., probably 1180. He is mentioned in documents often as Johannes Saresberiensis. He studied at Paris and Chartres under Abélard and Gilbert and accompanied (1148) Pope Eugenius III to Italy, returning to England (1153 or 1154) to enter the service of the archbishop of Canterbury. After the fall of Archbishop Thomas à Becket, he fled with Henry II to France, returning (1170) with Becket and, after the latter's assassination,

wrote his biography. He was appointed (1174) thesaurus of the capital at Exeter and (1176) bishop of Chatres. He was a lovable, cultured prelate, learned and broad of view, a philosopher, theologian, jurist and historian, honored by his contemporaries. His 'Metalogicus,' that sharply censures formal scholasticism, and his 'Polycraticus,' a clerico-political philosophy, show the classic culture of his mind. His letters are a valuable source for contemporaneous history. His works have been edited by Giles (Oxford 1847–48; 5 vols.). Consult Schaarschmidt, 'Johannes Sarseberiensis' (Leipzig 1862); Denimuia, 'Jean de Salisbury' (Paris 1873).

JOHN B. STETSON UNIVERSITY, a coeducational school founded in 1884 at De Land, Fla., under the auspices of the Baptist denomination. The institution was first called De Land University, but in honor of John Batterson Stetson (q.v.), who has given large gifts to the institution, nearly all of the buildings and the campus, the name has been changed. The departments are a preparatory, schools of music, law, art and technology, a normal and practice school for teachers, a business college and a college of liberal arts. The courses lead to the degrees of bachelor of arts, laws and philosophy, and to degrees of bachelor of civil, electrical and mechanical engineering. The school in 1898 made arrangements with the University of Chicago, whereby the graduates of the college of liberal arts, who have a high standing in their studies, may receive corresponding degrees from the Chicago institution. In 1917 the number of students in attendance was 487, the number of professors and instructors 40. The endowment fund amounted to about $1,000,000 and the income to $40,000. The library contains over 24,000 volumes. The campus of 35 acres and the well-equipped modern buildings are valued at $300,000.

JOHN STRANGE WINTER. See STANNARD, HENRIETTA.

JOHN WOOLMAN'S JOURNAL. Charles Lamb's advice, «Get the writings of John Woolman by heart,» is well known, and other sensitive and idealistic critics, English and American, have been equally enthusiastic over Woolman's chief work, his *Journal;* but among practical Americans of to-day it is to be feared that the book is oftener praised than read. It was begun when Woolman was 35 years old, and was continued until his death, in 1772, at the age of 52. Though it is called a journal, it goes back to recount the events of his whole life, particularly his spiritual experiences. It is notable that among the few American classics that have come down from the 18th century are the autobiographies of two men who represent opposed tendencies in American thought — Franklin and Woolman. In contrast with Franklin's extreme practicality stands Woolman's disregard of wordly things, and his readiness to sacrifice property, convenience, and bodily comfort for the sake of principle, and even for reasons of conscience so slight as to seem almost whims. Thus, on his trip to Europe he endured all the hardships of the steerage for the reason, as he says, "that on the outside of that part of the ship where the cabin was I observed sundry sorts of carved work and imagery; that in the cabin I observed some superfluity of workmanship of several sorts," and he felt a scruple against paying a passage rate that was greater because of these worldly adornments. Woolman was, however, no ordinary crank or eccentric reformer. The genuineness and sweetness of his character impel us to respect him when he goes to the greatest extremes in matters of conscience. He did not, like Franklin, pay deliberate attention to the mastery of style, but his singularly pure and limpid prose seems a natural expression of the man himself.

WILLIAM B. CAIRNS

JOHNNY CRAPAUD, kra'po' (toad), a popular nickname of the French nation, in a collective sense.

JOHNNY REB, a nickname given to the Confederates by the Federals during the Civil War, when they were usually termed «rebels» in the Northern States.

JOHNNY VERDE, or JUAN VERDE, a fish belonging to the genus *Paralabrax,* confined to the coasts of tropical America. The species *Paralabrax nebulifer,* known locally as the johnny verde, frequents our Pacific coast from Monterey to Lower California, where it is an important food fish. It is usually found in shallow water, grows to 18 inches length, is of a greenish color with mottlings irregularly pale and dark. The spotted *cabrilla, Paralabrax maculatofasciatus,* of this genus is found from San Pedro, Cal., to Mazatlan.

JOHN'S, Eve of Saint, the survival of a popular celebration of remote antiquity, held on 23 June, which in Christian times because the vigil or eve of the feast of the nativity of Saint John Baptist, 24 June (Midsummer Day). On the eve of the feast it was the custom in former times to kindle fires called Saint John's fires. This was indeed a continuance of those Teutonic and Scandinavian pagan festivals, which at the winter solstice were observed with Yule-fires, and at the summer solstice with similar beacon-fires, originally intended to communicate through the country the changes in the seasons announced by the priesthood, so as to direct the activities of agriculture and navigation. The burning of the Yule log at Christmas is a survival of these observances.

JOHNS HOPKINS UNIVERSITY, a university at Baltimore, Md., founded by Johns Hopkins, who was born in Maryland and amassed a fortune in Baltimore. He died in 1873 and bequeathed $3,500,000 to found a university. Opened in 1876, it is now one of the foremost universities in the United States. In 1902 a large tract of land in the suburbs of the city, comprising 176 acres (56 of which have been deeded to the city for a public park), was presented by several friends as a future site for the university. This noteworthy gift was followed within a few months by a generous contribution from alumni and citizens of Baltimore of $1,000,000 toward the permanent endowment of the institution. In the summer of 1916 the equipment of the university, in all departments but medicine and chemistry, was removed to the new site. A commanding structure named Gilman Hall (in honor of the first president of the university) houses the library and provides

seminary and classrooms for the non-laboratory subjects, besides offices of administration. It also takes care temporarily of the departments of zoology and botany. A separate building close by is equipped for plant physiology and botanical research work. There are two fine buildings for engineering, and the departments of physics, geology and undergraduate chemistry find temporary homes therein. The department of engineering was organized in 1912, funds for buildings and equipment having been appropriated by the State legislature. A most important part of the university is the medical school — begun in 1893 — occupying several buildings in the immediate vicinity of the Johns Hopkins Hospital. The most recent addition to the medical work is the school of hygiene and public health established by the Rockefeller Foundation, to be opened in 1917. Connected with the university is the Johns Hopkins Press, from which issue the *American Journal of Mathematics; The American Journal of Philology; Memoirs from the Biological Laboratory; Studies in Historical and Political Science; Beiträge zur Assyriologie; Modern Language Notes; Hesperia; Johns Hopkins University Circular; Terrestrial Magnetism and Atmospheric Electricity*, etc. The degrees of bachelor of arts, bachelor of science, bachelor of science in engineering, master of arts, master in engineering, doctor of philosophy and doctor of medicine are conferred. The university reported at the close of 1916 — professors, instructors and lecturers, 274; students, 1,668; number of graduates, 3,300; volumes in the library, 197,000; productive funds, $6,000,000; grounds and buildings valued at $3,360,000; value of books and apparatus, $633,000; income, $565,000. The university offers a large number of fellowships and scholarships for the encouragement of promising or needy students. Five endowed scholarships, three endowed fellowships, 10 university fellowship and 55 free tuition scholarships are open to college graduates. For undergraduates in arts and sciences there are 43 free tuition scholarships; for engineering students 129; for medical students seven. The university receives as students the following classes: College graduates, men or women, who may proceed to the higher degrees, or may work for longer or shorter periods in the various seminaries or laboratories without reference to a degree; undergraduate students looking forward to the degree of bachelor of arts, or of bachelor of science in engineering; candidates for the degree of doctor of medicine, for whom a four-year course is provided, and who may be either men or women; doctors of medicine desiring to pursue certain special courses; students who have not taken a degree, and are not looking forward to a degree, but who desire to avail themselves for a brief period of the opportunities here offered. College courses for teachers and others, at convenient hours in the afternoon and evening and on Saturday morning, have been provided for several years. In the autumn of 1916 the university inauguarated evening courses in business economics and in engineering subjects. Summer courses have been conducted since 1911. Work in these three groups may be credited toward the degree of bachelor of science. It is difficult to overestimate the influence of the Johns Hopkins University upon higher education in this country. There is scarcely an American college faculty that has not been enriched by the presence of one or more of its graduates, bringing with them at least something of the spirit of the institution, and its respect for exact scholarship and regard for scientific truth.

JOHNSON, Alba Boardman, American manufacturer: b. Pittsburgh, Pa., 8 Feb. 1858. He was graduated at Central High School, Philadelphia, in 1876. In 1877 he entered as junior clerk at the Baldwin Locomotive Works, then owned by Burnham, Parry, Williams and Company, in 1878–79 he was with the Edge Moor Iron Works of Wilmington, Del., and returned to the Baldwin Locomotive Works in the latter year. He was admitted to partnership in 1896 and in 1909 was made vice-president and treasurer and in 1911 president of the Baldwin works. He is a director of the Federal Reserve Bank, of the Standard Steel Works, of the New York Life Insurance Company and many other corporations. He is president of the American Manufacturer's Export Association and a member of the American Master Mechanics' Association.

JOHNSON, Alvin Saunders, American economist: b. near Homer, Neb., 18 Dec. 1874. He studied at the University of Nebraska, took the degree Ph.D. (1902) at Columbia, and was appointed (1901) reader in economics at Bryn Mawr College. He became instructor and adjunct-professor of economics (1902–06) at Columbia, professor of economics, University of Nebraska (1906–08) and at the University of Texas (1908). He was acting associate professor at University of Chicago (1909) and associate professor (1910–11), professor of economics at Leland Stanford, Jr. University (1911–12), Cornell University (1912–16), then professor of political science, Stanford University (1916–18). From 1902–04 he was editor of economics for New International Encyclopedia, and editor of political science for the American edition 'Nelson's Encyclopedia.' He wrote 'Rent in Modern Economic Theory' (1903); 'Introduction to Economics' (1909); 'The Professor and the Petticoat' (1914).

JOHNSON, Andrew, 17th President of the United States: b. Raleigh, N. C., 29 Dec. 1808; d. Carter's Station, Tenn., 31 July 1875. Johnson's father died when the boy was 5 years old, and at 10 he was apprenticed to a tailor in his native town. While at work, Johnson gained the first rudiments of an education from a gentlemen who often visited the tailor's shop and read aloud to the journeymen and the apprentices from a volume of speeches of eminent British orators. Johnson became interested and received the book as a gift from the owner and learned to read and spell at the same time. In 1824, having completed his apprenticeship, he left Raleigh and went to Laurens Court House. In 1826 he returned to Raleigh, but in September of the same year he left with his mother, whom he always showed the greatest solicitude and respect, for Greenville, Tenn. The following year he married. Encouraged and aided by his wife he learned to write and figure. Becoming interested in the problems of his fellow-workers he was elected alderman (1828), to which office he was twice re-elected. In 1830 he was elected mayor, and held the posi-

tion for three terms. He was also chosen by the County Court as trustee of Rhea Academy, which he held until he entered the State legislature. In 1839 he took an active part in the adoption of a new State constitution which greatly enlarged the freedom of the masses and guaranteed freedom of speech and of the press. The next year he was elected to the State legislature from the counties of Washington and Green where he was especially pronounced in his opposition to the wild schemes of internal improvements then in vogue. Defeated in 1837 for re-election, he was returned in 1839 when the State realized the justice of his position in view of the crisis of 1837. Johnson canvassed eastern Tennessee for the Democratic candidate in 1840, and served as presidential elector-at-large. In the following year he entered the State senate, signalizing his advent by the introduction of a judicious measure for internal improvements. In 1843 he was nominated from the first district for Congress, and in December took his seat in the national House of Representatives, which he continued to hold for 10 years. While in the lower house he supported a bill for refunding the fine imposed on General Jackson, the annexation of Texas, the war measures of Polk's administration, and a homestead measure, and opposed all schemes of internal improvement when local in scope and the tariff of 1842. On 2 Aug. 1848, he made a speech setting forth his ideas with regard to the President's veto power. "A veto as exercised by the executive," he declared, "is conservative and enables the people through their tribunician officer, the President, to arrest or suspend for the time being unconstitutional, hasty and improvident legislation until the people, the sovereigns in this country, have time and opportunity to consider its propriety." This utterance was made the theme of an interesting article in the *Democratic Review* in its January issue. Returning to his own State he was chosen for governor in 1853. His inaugural excited much criticism for its ultra radical statements. Two years later he was elected to the United States Senate. As senator he gained special distinction in advocating a homestead measure, only to see his efforts thwarted by President Buchanan.

By this time the slavery problem was the real issue of the nation. Johnson, a Southern Democrat, himself the owner of slaves "acquired by the toil of his hands," mildly upheld slavery, but he did not believe in compromises nor in agitating the slavery controversy, deeming all such discussions as futile. For this reason he disbelieved in the right of petition but supported the Compromise of 1850 because he thought each resolution embodied his views. Nevertheless he did not sanction the Southern attitude of threatening the national government. In the National Democratic Convention at Charleston in 1860, Johnson was a candidate, but in the election he supported the Breckenridge ticket. When he saw the determination of the South to secede, he alone of the Southern members refused "to go with his State" when it withdrew. In 1861 he returned to Tennessee and often at the risk of his life worked in behalf of the Union. In 1862 he became military governor of that part of Tennessee under the control of the Northern forces and began organizing a Union government. Two years later Johnson was placed on the ticket with Lincoln in order to secure the votes of the border States and the Democrats.

At the sudden death of Lincoln, Johnson undertook the difficult problem of reconstruction left unfinished by his predecessor. Perhaps no man in the Union was so unfitted for this task as the President. Egotistical, tactless, self-confident, fond of making extravagant speeches, radical by nature, and uneducated, Johnson was incapable of grasping the subject. Where Lincoln by his skill could have molded opinion to his view, Johnson aroused a storm of opposition. Yet, to the radical Republicans, Johnson's succession to the mild Lincoln was received with acclaim, for the new incumbent had always displayed himself as a vigorous prosecutor of the recalcitrant Southerners. But no sooner was Johnson in office than he began to change, probably due to Seward's influence and the added responsibility of his new office. In so doing, Johnson soon found himself in opposition to the legislative branch of the government.

Two possible agencies were available to handle the new situation. One, the executive branch, working on the theory that the President as commander-in-chief of the army had the power to establish military rule and withdraw it; the other, the legislative body, on the assumption that restoration was a part of the lawmaking function. Lincoln, in dealing with the parts of Tennessee, Arkansas and Louisiana recovered from the Confederacy, had undertaken the task of reconstruction by issuing his Amnesty Proclamation (8 Dec. 1863), in which he had declared that when a number of citizens of the State equal to one-tenth of the vote of that particular State in 1860 had taken the prescribed presidential oath, they might establish a civil government; but the President had definitely stated that the admission of their senators and representatives to Congress would rest entirely with the legislative branch. Congress showed its opposition to this scheme by hastily passing the Wade-Davis Bill (2 July 1864). Lincoln "pocket vetoed" the bill, but the significance of the struggle demonstrated the determination of Congress to exert its full prerogatives.

Notwithstanding this warning from Congress, Johnson embarked on the same policy at his succession, and on 29 May 1865 issued a similar Amnesty Proclamation, excluding, however, more classes than Lincoln had done. Immediately the work of creating provisional government in the seceded States began, and by October six Southern States had carried out Johnson's ideas by denying the right of secession and abolishing slavery. Three circumstances, however, contributed to destroy the efficacy of his plan; (1) the South adopted harsh "black codes" which, by prescribing severe restrictions covering apprenticeship, vagrancy and employment of the freedmen, led the North to suspect the new establishments of good faith; (2) the selection of old secession leaders as new representatives, Georgia even going so far as to choose Stephens, the ex-Vice-President of the Confederacy, as one of her United States senators; (3) the determination of the radicals in Congress to exclude the Southern leaders and

ANDREW JOHNSON

Seventeenth President of the United States

give the negro political rights, thereby assuring the supremacy of the Republican party. Accordingly, a bitter contest began between the President and Congress, led by Stevens and Sumner, over the question of reconstruction. On 4 Dec. 1865 Stevens introduced a resolution creating a Reconstruction Committee composed of nine representatives and six senators. This started the conflict. Johnson replied by vetoing (19 Feb. 1866) the Freedmen's Bureau Bill intended to aid the negro; and, three days later, he delivered a public address to a serenading party in which he charged Stevens, Sumner and Wendell Phillips with trying to destroy the principles of the government. From this time on the breach was irremediable and Congress passed over the President's veto the Civil Rights Bill, a new Freedmen's Bureau Bill, and submitted the 14th Amendment to the States. Both parties appealed to the people in the fall election for vindication, and, owing to Johnson's lack of tact and decorum in his "swinging round the circle campaign," and an unfortunate riot in New Orleans with its accompanying evil effects on the North of the Southern good intentions, the radicals carried the election. Therefore in 1867 Congress set forth the Congressional plan of reconstruction which meant the disfranchisement of the ex-Confederates and the enfranchisement of the negroes. Johnson, to his credit, carried out faithfully these laws, but the final test came with the removal of Stanton as Secretary of War in violation of the Tenure of Office Act, 2 March 1867. This act forbade the President dismissing any officer without the consent of the Senate. Counseled by his Attorney-General that the act was unconstitutional, Johnson dismissed Stanton, now in open accord with the radicals and for whose protection the law had been enacted. In dismissing Stanton, Johnson broke with Grant over a question of veracity, and thereby gave Congress its opportunity. In February 1868 the House of Representatives voted to impeach him. The main charges brought against the President were (1) his dismissal of Stanton; (2) his declarations that certain laws were unconstitutional; (3) his speeches in the campaign of 1866; (4) his opposition to Congressional reconstruction. The trial was poorly conducted; the evidence showed much animus; and the fear that Wade, president of the Senate, would succeed, combined with the happy appointment of General Schofield as Secretary of War, turned the tide in favor of the President. Thus on the final vote he was acquitted (35–19), the requisite two-thirds for conviction not having been obtained. In 1868 Johnson was a candidate in the Democratic National Convention but failed to secure the nomination. He returned to Greenville, and after several unsuccessful attempts was elected senator in 1875. His triumph was short, for he died in July.

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R. C. McGrane,
Assistant Professor of History, University of Cincinnati.

JOHNSON, Bradley Tyler, American lawyer: b. Frederick, Md., 29 Sept. 1829; d. 5 Oct. 1903. He was graduated from Princeton in 1849, studied law at Harvard in 1850–51, entered practice at Frederick in 1851, became in that year State's attorney for Frederick County, was a delegate to the National Democratic Convention at Charleston and Baltimore in 1860, withdrew from the convention and supported the Breckenridge and Lane ticket. At his own expense he organized a company for the Confederate service, in which he rose to be brigadier-general of cavalry (1864). Subsequent to the war he practised law at Richmond in 1865–79, at Baltimore in 1879–90; and was a member of the State senate of Virginia in 1875–90. His works include 'Reports of Chase's Decisions' (1875); 'Memoir of J. E. Johnston' (1891); a 'Life of General Washington'; 'Maryland in Confederate Military History' (Atlanta 1899).

JOHNSON, Burges, American publisher and journalist: b. Rutland, Vt., 9 Nov. 1877. He was graduated at Amherst (1899) and became reporter on the New York *Commercial Advertiser* and the *Evening Post*. He was literary adviser for G. P. Putnam's Sons (1900–02) and on the literary staff of Harper & Brothers (1903–06), assistant editor on *Everybody's Magazine* (1906–07), editor of *Outing* (1907–08), becoming president of the Thompson, Brown Co., publishers (1908–13). He was appointed manager of the educational department of E. P. Dutton & Co. (1913) and assistant professor of English at Vassar College (1915). He has written 'Rhymes of Little Boys' (1905); 'Pleasant Tragedies of Childhood' (1905); 'Beastly Rhymes' (1906); 'Rhymes of Home' (1909); 'Yearbook of Humor' (1910); 'Bashful Ballads' (1911); 'Rhymes of Little Folk' (1915).

JOHNSON, Cave, American politician: b. Robertson County, Tenn., 11 Jan. 1793; d. Clarksville, Tenn., 23 Nov. 1866. Admitted to the bar, he practised at Clarksville, in 1820 became a judge of the State Circuit Court, and was a Democratic representative in Congress in 1829–37 and again in 1839–45. In 1845 he was appointed Postmaster-General, from which post he retired at the close of Polk's administration (1849). He was president of the Tennessee State Bank in 1850–59, and was elected to the State senate as a Unionist in 1863, although unable to serve because of ill-health. He was against secession and used every endeavor to keep Tennessee in the Union. He consistently supported Andrew Johnson and his policy of conciliation.

JOHNSON, Charles Fletcher, American legislator: b. Winslow, Me., 14 Feb. 1859. He was graduated at Bowdoin College (1879), receiving LL.D. diploma (1911). He was appointed principal of the high school at Machias, Me. (1881–86), admitted to the bar (1886) and practising first at Waterville, where he was elected mayor. In 1892 and 1894 he was the Democratic candidate for governor of

Maine, and was a member of the House of Representatives in 1905 and 1907. He was United States senator from Maine from 1911–17, and circuit judge, first circuit, from 1917.

JOHNSON, Clifton, American author and illustrator: b. Hadley, Mass., 25 Jan. 1865. He obtained a secondary education, worked on a farm, was clerk in a bookshop and school teacher, studied in the New York art schools, published in 1892 'The New England Country,' an illustrated study of farm folk, and later was much abroad obtaining notes and pictures for works on foreign life. More recently he has visited every nook and corner of the United States in gathering material for an 'American Highways and Byways' series in seven volumes. He has edited a considerable number of books for school use and illustrated a long list of others by famous authors. Among the volumes of which he is author and illustrator are 'The Country School' (1893); 'The Farmer's Boy' (1894); 'What They Say in New England' (1896); 'Among English Hedgerows' (1899); 'Along French Byways' (1900); 'The Isle of the Shamrock' (1901); 'The Land of Heather' (1903); 'Old Time Schools' (1904); 'The Picturesque Hudson' (1909); 'The Picturesque Saint Lawrence' (1910); 'American Highways and Byways' (dealing with the South, the Mississippi Valley, California, the Rocky Mountains, the Great Lakes, from the Saint Lawrence to Virginia, and New England, the first volume published in 1904, the last in 1915); and 'Battleground Adventures in the Civil War' (1915).

JOHNSON, Duncan Starr, American botanist: b. Cromwell, Conn., 21 July 1867. He took the degree B.S. (1892) at Wesleyan University and Ph.D. at Johns Hopkins (1897), then studied at Munich (1901). He was appointed assistant in botany (1898), becoming associate (1899) and associate professor (1901), to become professor in 1906 and director of the botanical garden from 1913. From 1896–1900 he had charge of botany work and of cryptogamic botany from 1902–11 at Cold Spring Harbor, L. I. He worked on botanical exploration and investigation (1903, 1906 and 1910) at Jamaica, West Indies, and was special investigator at Carnegie Institution, Washington (1912 and 1915). He has written 'The Relation of Plants to Tide Levels' (1915) in collaboration with H. H. York, and has been a regular contributor to the botanical journals.

JOHNSON, Eastman, American painter: b. Lowell, Me., 29 July 1824; d. New York city, 5 April 1906. He began his art studies at the Royal Academy, Düsseldorf (1849–51), and developed a distinct talent for genre. He afterward traveled in France, Italy and Holland, and spent four years at The Hague. Among his pictures painted in Europe are the 'Savoyard' and the 'Card Players,' in which he showed the influence of the Dutch school. He returned to the United States in 1856 and devoted himself for some years to the study of rustic and negro life and he painted some of the most popular pictures ever produced by a native painter; many of them have been engraved and chromolithographed. The best known are 'Old Kentucky Home'; 'Husking Bee'; and the 'Boyhood of Abraham Lincoln.' He also produced excellent likenesses of Grover Cleveland, Benjamin Harrison, John D. Rockefeller, William H. Vanderbilt, Cornelius Vanderbilt, Mrs. August Belmont and Mrs. Alexander Hamilton.

JOHNSON, Edward, American colonial historian: b. Herne Hill, Kent, England, about 1599; d. Woburn, Mass., 23 April 1672. He emigrated to America probably with Governor Winthrop in 1630. In 1632 he was engaged in trade at Merrimack, and was on the committee appointed to superintend the foundation of a new town and church at the place now called Woburn. In 1643 he was elected by the town of Woburn a member of the legislature of Massachusetts, in which he continued to sit till 1671, with the exception of 1648. In 1655 he was chosen speaker of the house. He was recorder of Woburn from the time of its incorporation till his death. In 1665 he was one of the members deputed to hold conference with the commissioners sent from England by Charles II. He wrote a 'History of New England from the English Planting in 1628 till 1652, or Wonder-Working Providence of Zion's Saviour' (1654). It was reprinted in 'Massachusetts Historical Collection' (2d series, Vols. I–V, VII–VIII). There is also a facsimile edition with an introduction by W. F. Poole.

JOHNSON, Edward, American soldier: b. Chesterfield County, Va., 16 April 1816; d. Richmond, Va., 22 Feb. 1873. After being graduated from the United States Military Academy in 1838 he fought in the Florida wars, for his services in which he was brevetted captain, and subsequently in the Mexican War, being brevetted major for his conduct at Chapultepec. He received his captain's commission in 1851, but in 1861 resigned to enter the army of the Confederate States as colonel of the 12th Georgia Volunteers. He was promoted brigadier-general in 1862 and major-general in 1863. At Gettysburg he commanded a division. He was captured with his entire force at Spottsylvania (12 May 1864) and retaken in the following December. Subsequent to the war he was a farmer in Chesterfield County, Va.

JOHNSON, Emily Pauline, Canadian poetess: b. Chiefwood, Ontario, 1862; d. Vancouver, 7 March 1913; the daughter of George Johnson, head chief of the Mohawk Indians, and of his English wife. Her poems on Indian subjects are full of dramatic force and intensity. Her works are 'The White Wampum' (1894); 'Canadian Born' (1903); and 'Flint and Feathers' (1912).

JOHNSON, Emory Richard, American economist: b. Waupun, Wis., 22 March 1864. He studied at University of Wisconsin (1888) and University of Pennsylvania (1893), taking the degree of Sc.D. (1913). He was instructor of economics at Haverford College (1893–96), professor of transportation and commerce at University of Pennsylvania (1896). He served as expert on transportation (1899) on the United States Industrial Commission, and was a member on valuation of railway property for the United States Census Bureau (1904–05), and as expert on traffic on the National Waterways Commission (1909). In 1911 he furnished a report on Panama Canal traffic, etc., for President Taft, and arbitrated the dispute (1907) between the Southern Pacific Company and the Order of Railroad Telegraphers. He is an ex-director of the Bureau of Municipal Research, Philadelphia, and director of the Philadelphia

Maritime Exchange. He has written 'Inland Waterways; their Relation to Transportation' (1893); 'American Railway Transportation' (1903); 'Elements of Transportation' (1906); 'Railroad Traffic and Rates' (1911); 'Panama Canal Traffic and Tolls' (1912); 'Measurement of Vessels for the Panama Canal' (1913); 'The Panama Canal and Commerce' (1916); 'Principles of Railroad Transportation' (1916), and many papers on the economics of railroads, etc. He was editor of the *Annals* of the American Academy of Political and Social Science from 1901–14.

JOHNSON, Franklin, American Baptist clergyman and educator: b. Frankfort, Ohio, 2 Nov. 1836; d. 7 Oct. 1916. He was graduated from Colgate Seminary in 1861; was ordained a Baptist minister in 1862, and was pastor at Bay City, Mich., 1861–63; Lambertville, N. J., 1864–66; Passaic, N. J., 1866–72; Newark, N. J., 1872–74; and Cambridge, Mass., 1874–88. He studied at German universities and traveled Europe, Egypt and Palestine in 1868–69. He was made D.D. by the University of Jena, Germany, in 1869, and LL.D. by the University of Ottawa, Kan., 1898. After his pastorate in Cambridge he traveled in Greece and spent the winter of 1888–89 in Athens. He was president of Ottawa University 1890–92. The remainder of his public life has been in connection with the University of Chicago, where he was assistant professor of church history and homiletics 1892–94; associate professor 1894–95; professor 1895–1908; and professor emeritus since 1908. Thus his public life has been divided into two almost equal parts, the first in the pastorate and the second in university administration and teaching. While laboring as pastor at Cambridge he was also editor of *The Watchman* 1876–77. The following are his principal published writings: 'The Gospel according to Matthew,' with notes (1873); 'Moses and Israel' (1874); 'Heroes and Judges from the Lawgiver to the King' (1875); 'True Womanhood; Hints on the Formation of Womanly Character' (1884); and 'Romance in Song,' a translation of Heine's 'Lyrical Interlude' (1884); 'The New Psychic Studies in their Relation to Christian Thought' (1886); 'The Quotations of the New Testament from the Old considered in the Light of General Literature' (1896); 'The Home Missionaries,' a poem (1899); 'Have we the Likeness of Christ?' (1902); 'The Christian's Relation to Evolution' (1904). In addition he made contributions to reviews and to encyclopedias, and published translations of Latin and Anabaptist hymns in the current periodicals. He journeyed around the world in 1913–14, making studies of Christian missions and the conditions of Asiatic populations.

JOHNSON, Gisle Christian, Norwegian Lutheran theologian: b. Fredrikshald, 10 Sept. 1822; d. Christiania, 17 July 1894. He was educated at the Christianssand Cathedral School and University of Christiania, gaining a scholarship which assisted him to study at Berlin, Leipzig, Erlangen, Heidelberg, Tübingen and Paris. He was appointed (1847) lecturer of theology at Christiania University and became professor in 1860. His lecture subjects were systematic theology, history of doctrine, the New Testament canon, but after 1877, church history. He was of the strict orthodox old Lutheran faith. He wrote 'Nogle Ord om Barnedaaben' when the pietist Lammers (1857) left the Established Church to found a "free apostolic and Christian congregation." With Caspari, he edited *Tidskrift for den evangelisk lutherske Kirke i Norge,* and founded (1863) the *Luthersk Kirketidende,* editing it till 1875. His 'Grundrids af den systematiske Theologie' appeared 1878–79, but his 'Forelæsninger over den christelike Ethik' and also his 'Forelæsninger over Dogmehistorien' were not published till after his death, in 1896.

JOHNSON, Helen Kendrick, American author: b. Hamilton, N. Y., 4 Jan. 1844. She was the daughter of A. C. Kendrick (q.v.) and was married to Rossiter Johnson (q.v.) in 1869. Beside editing several compilations of verse she has published 'The Roddy Books,' popular juvenile tales (1874–76); 'Our Familiar Songs' (1881); 'Raleigh Westgate' (1889); 'Woman and the Republic' (1897). She has been an active member of the Association Opposed to the Extension of Suffrage to Women and has written much on the question of woman suffrage. She founded the Meridian Club in 1886, and the Guidon Club in 1907.

JOHNSON, Herman Merrill, American educator: b. Butternuts, N. Y., 15 Nov. 1815; d. Carlisle, Pa., 5 April 1868. He was graduated (1839) at Wesleyan University, Connecticut, and appointed professor of ancient languages at Saint Charles College, Missouri. He accepted a similar position (1842) at Augusta College, Kentucky, which he left (1844) when called to the chair of ancient languages and literature at Ohio Wesleyan University. In 1850 he became professor of philosophy and English literature at Dickinson College and was called to the chair of moral science in 1860, accepting in the same year the presidency, which he held till his death. Ohio Wesleyan University conferred on him (1852) the degree of D.D. He edited 'Orientalia Antiquaria Herodoti,' published an edition of the 'Clio' of Herodotus (1850) and was a regular contributor to the *Methodist Quarterly Review* and the religious periodicals.

JOHNSON, Herrick, American clergyman and educator: b. Caughnewaga, N. Y., 22 Sept. 1832; d. 20 Nov. 1913. He was graduated (1857) at Hamilton College and (1860) Auburn Theological Seminary, and became associate pastor (1860–62) at the First Presbyterian Church, Troy, N. Y., then pastor (1862–67) at the Third Presbyterian Church, Pittsburgh, Pa. He was pastor (1868–73) of the First Presbyterian Church, Philadelphia, and was then made professor of homiletics and pastoral theology at Auburn Theological Seminary (1874–80), becoming next pastor at the Fourth Presbyterian Church, Chicago, until 1883. From 1880–1906 he was teaching at McCormick Theological Seminary, Chicago. He was president of the Presbyterian Board of Ministerial Education (1869–73) and of the Presbyterian Board of Aid (1883–1903), moderator of the Springfield, Ill., General Assembly (1882), etc. He wrote 'Christianity's Challenge' (Chicago 1880); 'Plain Talks about the Theatre' (1882); 'Revivals, their Place and Power' (1883); 'Presbyterian Bulwarks' (New York 1887); 'Pres-

byterian Book of Forms' (Philadelphia 1889); 'Ideal Ministry' (1908).

JOHNSON, Herschel Vespasian, American jurist and politician: b. Burke County, Ga., 8 Sept. 1812; d. Jefferson County, Ga., 16 Aug. 1880. He was graduated from the University of Georgia in 1834, studied law, practised there, from 1844 at Milledgeville, and in 1848 was appointed to the Senate of the United States to fill the seat of W. T. Colquitt, resigned. A strong advocate of Clay's compromise scheme, he identified himself with the Southern Unionists. In 1849–53 he was a judge of the Georgia Superior Court, in 1853–57 governor of the State. He was nominated by the Northern Democracy in 1860 as Vice-President on the presidential ticket with Douglas. Though opposed to secession, he followed his State, and in 1862 was elected to the Confederate Congress. Elected United States senator in 1866, he was refused his seat because of war disabilities. He was a judge of the Georgia Superior Court from 1873 until his death.

JOHNSON, Hiram Warren, American lawyer and senator: b. Sacramento, Cal., 2 Sept. 1866. He was educated at the University of California and was called to the California bar (1888), practising at Sacramento, but moving (1902) to San Francisco. He made his reputation as one of the prosecuting attorneys in the boodling cases (1906–07) which involved the leading officials of the city and the utility corporations. When Francis J. Heney was shot in the court room during his prosecution of Abe Ruef for bribery, he took his place and convicted Ruef (1908). He was elected governor of California (1911–15) and re-elected for the term 1915–19, but resigned 1917. He was a founder of the Progressive party (1912) and nominee for Vice-President on the Progressive ticket and was elected United States senator from California, for the term 1917–23. During his administration as governor he continued his attacks on the Southern Pacific Railroad with the expressed determination that that corporation should loosen its political hold on the State, and he rid the government of numerous inefficient office holders. He advocated initiative and referendum as an amendment to the constitution of his State to aid in putting political grafters out of office. The Webb Bill, forbidding the ownership of land by Asiatic aliens, was signed by him (1913) and brought on a heated and prolonged controversy between Washington and the Japanese government.

JOHNSON, Sir John, American colonial soldier: b. near Johnstown, N. Y., 5 Nov. 1742; d. Montreal, 4 Jan. 1830. He was the son of Sir William Johnson (q.v.), was knighted in 1765 and succeeded to his father's estates and baronetcy in the Mohawk Valley in 1774. When the Revolution came on he escaped to Canada in 1776 with 700 loyalists. He organized the corps known as the Queen's Own American Regiment, of which he was commissioned colonel. In July 1777, he took part in the siege of Fort Stanwix (q.v.). He defeated General Herkimer in the latter's brilliant attempt to cause the besiegers to abandon their operations; but was himself subsequently defeated. During the next two years he continued active in northern and central New York, and the Indian massacres of Cherry Valley and Wyoming formed some of the most painful incidents of the war. He was, however, crushingly defeated at Newton (now Elmira) 29 Aug. 1779, and retired to Montreal. His influence over the Indians had always been remarkable and the British government appointed him superintendent-general of Indian affairs in British North America, besides making him extensive land grants, to replace the Mohawk family estates which had been confiscated. Consult Stone, 'Life of Brant' (Albany 1865).

JOHNSON, John Albert, American public official: b. Saint Peter, Minn., 1861; d. Rochester, Minn., 21 Sept. 1909. When Johnson was only 13 years old, his father died in the county poorhouse of alcoholic dementia, and he was forced to leave school in order to support his mother. He was employed by various mercantile establishments and for a time was connected with a railroad construction gang. During all of this time, however, he continued to educate himself by private study. His success in this respect was demonstrated in 1886 when he was made editor of the Saint Peter *Herald*. He was active in bringing about civic improvements, providing free public lectures and establishing playgrounds. His attractive personality and geniality made him extremely popular. In 1894 he entered politics as Democratic candidate for the State senate; though then unsuccessful, in 1898 he was elected and served in three successive legislatures. He became known for his independence of party partisanship when he opposed Governor Lind on the question of withdrawing Minnesota troops from the Philippines. Johnson was a bold advocate of tariff reform and economy in the administration of the government. In 1904 he was nominated and elected governor. The campaign was extremely bitter, and personalities entered largely into the speeches. The public issue concerned the merging of the Great Northern and Northern Pacific railroads, but Johnson was taunted with reference to his family. His popularity with the Scandinavian element, his public record and the assaults on his family turned public sentiment in his favor, and he was elected by a plurality of 6,000 at a time when Roosevelt carried the State for the Republican national ticket by 146,000. As governor, he achieved immense success, and through his influence legislation was enacted providing for employers' liability, the abolition of railroad passes, schools for delinquent girls, and a reformation of the civil service; he was also instrumental in effecting local and national reforms in insurance laws. He was re-elected governor in 1906 by a plurality of 76,000, and again in 1908 by 20,000, although Taft carried the State for the Republican national ticket by 85,000 votes. In the presidential campaign of 1908 Johnson was frequently mentioned for the Democratic nomination, and he received 46 votes in the Denver Convention. His prestige and success as governor were not diminished by the quiet, though determined, method employed by him in dealing with the miners' strike of 1908. He had long suffered from appendicitis, and in 1909 an operation was performed, but failed to save his life.

JOHNSON, John Butler, American civil engineer and educator: b. Marlboro, Ohio, 11 June 1850; d. Madison, Wis., 1902. He graduated as a civil engineer (1878) at the University of Michigan and was appointed assistant engineer in the United States Lake and Mississippi River surveys. In 1883 he accepted the chair of civil engineering at Washington University, Saint Louis, Mo., in which vocation he became noted among educators. He was chosen dean of the College of Mechanics and Engineering (1898), at the University of Wisconsin, where he taught till his death. He wrote 'Theory and Practice of Surveying' (8th ed., 1904); 'Materials of Construction' (1st ed., 1897); 'Engineering Contracts and Specifications' (3d ed., 1904). In 1884 he directed the *Index to Current Literature* in the *Journal of the Association of Engineering Societies,* and (1891) the United States Agricultural Department placed him in charge of the extensive tests of American timbers.

JOHNSON, Joseph French, American economist: b. Hardwick, Mass., 24 Aug. 1853. He was graduated (1878) at Harvard, studied political economy and history for one year in Germany and became member of the staff of the Springfield *Republican,* then financial editor of the Chicago *Tribune.* He founded the Spokane, Wash., *Tribune* (1890), selling out in 1893 to become professor at Wharton School of Commerce, University of Pennsylvania (1893–1901). From 1899–1903 he was lecturer on finance at Columbia University and, from 1901, professor of political economy. From 1903 he was dean of the School of Commerce, Accounts and Finance at New York University. Hobart College, Geneva, N. Y., conferred LL.D. degree (1915). He was a member of the commission on New Sources of Revenue for New York city (1912) and of the commission to revise the banking laws of New York State (1913). He wrote 'Money and Currency' (1905); 'Syllabus of Money and Banking' (1899); 'Report on the Canadian Banking System for the National Monetary Commission' (1910), besides numerous contributions to the technical periodicals on financial and economic problems.

JOHNSON, Manuel John, English astronomer: b. Macao, China, 23 May 1805; d. 28 Feb. 1859. He was educated at Addiscombe College, England, entered the artillery (1821) at Saint Helena, becoming aide-de-camp to General Walker, who aided him in founding an observatory on the island. By 1833 he had secured materials for 'A catalogue of 606 principal Fixed Stars in the Southern Hemisphere' which was printed by his patrons, the East India Company (1835), who had furnished his astronomical equipment. For this important catalogue he was awarded the Royal Astronomical Society's Gold Medal. He was appointed (1839) to take charge of the Radcliffe observatory when he worked indefatigably on the redetermination of Groombridge's circumpolar stars, his investigations appearing in 18 volumes of the *Radcliffe Observations.* With the aid of Sir Robert Peel an improved outfit of instruments was furnished (1843) including a Simms transit circle and a heliometer (1849) by Repsold of Hamburg with a seven and one-half object glass, the largest then existing. With this new equipment he observed (1850) 26 important double stars and (1852–53) measured the chief stars of the Pleiades and the annual parallaxes of 61 Cygni, continuing the work on Castor, Arcturius and Lyræ (1854–55). He was elected Fellow of the Royal Society (1856), and president of the Royal Astronomical Society (1857–58). His catalogue of 6,317 circumpolar stars was in the printer's hands when he died and was published in 1860. A prize for an essay on an astronomical or meteorological subject is offered at Oxford every four years, since 1862, instituted in his memory. Consult Foster's 'Alumni Osconiensis,' *Monthly Notices Royal Astronomical Society* (Vols. XIX and XX).

JOHNSON, Owen, American author: b. New York, 27 Aug. 1878. He is a son of Robert Underwood Johnson and was graduated at Yale in 1901. His story of school life 'The Varmint' (1910), with its boyish high spirits, cleverness and wholesomeness, is perhaps his best work. 'Stover at Yale' (1911), a college story, frank in its criticisms of certain phases of life at Yale, aroused a storm of controversy. He has also written 'Arrows of the Almighty' (1901); 'In the Name of Liberty' (1905); 'Max Fargus' (1906); 'The Eternal Boy' (1909); 'The Humming Bird' (1910); 'Tennessee Shad' (1911); 'The Sixty-first Second' (1912); 'The Salamander' (1914), later dramatized; 'Murder in Any Degree' (1914); 'Making Money' (1914); 'The Woman Gives' (1915). He also wrote the plays 'The Comet' (1908); 'Comedy for Wives' (1912), and an adaptation from the French, 'The Return from Jerusalem' (1912); 'Virtuous Wives' (1918).

JOHNSON, Reverdy, American jurist: b. Annapolis, Md., 21 May 1796; d. there, 10 Feb. 1876. He was educated at Saint John's College in that city, and at 17 began to study law. In 1815 he was admitted to the bar, in 1817 removed to Baltimore and subsequently devoted his time mainly to the arguing of cases before the United States Supreme Court. He reported seven volumes of the decisions of the Maryland Court of Appeals, known as 'Harris' and Johnson's Reports,' (1820). In 1821 he was elected a State senator, and at the expiration of his term in 1825 was re-elected for a second term. In 1845 he was chosen a United States senator, resigning in 1849 on being appointed Attorney-General of the United States. On the succession of Mr. Fillmore, after the death of President Taylor, he resigned that office, and resumed in Baltimore the practice of the law. In 1861 he was a member of the peace commission, was United States senator 1863–68, and succeeding Charles Francis Adams as Minister to England in 1868 negotiated the treaty for the adjustment of the *Alabama* claims, afterward rejected by the Senate. He was recalled in 1869. He prepared an argument in defense of Mrs. Surratt, accused of complicity in the assassination of Lincoln, but it was refused a hearing by the military court.

JOHNSON, Richard Mentor, American statesman and soldier: b. Floyd's Station, near Louisville, Ky., 17 Oct. 1780; d. Frankfort, Ky., 19 Nov. 1850. He was educated at Transylvania University, and subsequently studied law and practised with success. He commenced his public career as a member of the Kentucky

legislature, to which he was elected at 23, and in 1807 was returned to Congress, and remained a member of the House until 1819. He was a firm supporter of the administration of Madison, and upon the commencement of the War of 1812 raised a body of Kentucky mounted riflemen, whom he commanded, on the Canadian frontier. The decisive charge of his mounted volunteers mainly contributed to the brilliant victory gained over the British and Indians at the battle of the Thames, 5 Oct. 1813, and it was by his hand that the Indian leader Tecumseh is commonly supposed to have fallen. In 1819 he was elected to fill a vacancy in the United States Senate, of which he continued a member until 1829, when he was again returned to the House of Representatives. He remained a member until his election by the senate in March, 1837, as Vice-President of the United States. He discharged the duties of presiding officer of the Senate for four years, and in the Presidential election of 1840 was an unsuccessful candidate of the Democratic party for Vice-President. He thenceforth lived chiefly in retirement. He was, however, serving a term in the State legislature at the time of his death. In Congress his chief efforts were against the discontinuance of the Sunday mails, and in behalf of soldiers of the Revolution or of the War of 1812, who applied for pensions. He was the author of the law abolishing imprisonment for debt in Kentucky.

JOHNSON, Richard W., American military officer: b. near Smithland, Ky., 7 Feb. 1827; d. Saint Paul, Minn., 21 April 1897. He was graduated at West Point in 1849, was employed chiefly on frontier service until 1861, when he became colonel of the 3d Kentucky Cavalry, 11 October was appointed brigadier-general of volunteers, and later commanded a division at Murfreesboro, and with his division fought under Thomas at Chickamauga (19–21 Sept. 1863). He commanded the 12th division of the Army of the Cumberland in the invasion of Georgia and a division of cavalry at Nashville, was brevetted brigadier-general, United States army, for his services (13 March 1865), and, having been mustered out of the volunteer service, became provost-marshal of the military division of the Tennessee. In 1867 he resigned from the service with rank of major-general, changed by act of Congress (1875), to brigadier. Among his writings were 'Life of Gen. G. H. Thomas' (1881), and 'A Soldier's Reminiscences' (1886).

JOHNSON, Robert Underwood, American editor and author: b. Washington, D. C., 12 Jan. 1853. He was educated at Earlham College, Indiana, and joined the staff of the *Century Magazine* in 1873, he was associate editor from 1881 to 1909, and in the latter year, on the death of Richard Watson Gilder, succeeded to the editorial chair, which he occupied until May 1913. He early became noted for his services in behalf of international copyright, as secretary of the American Copyright League doing much to secure the passage of the law of 1891, for which he was decorated by the French and Italian governments. With Clarence Clough Buel he had charge of editing the 'Century War Series,' afterward published as 'Battles and Leaders of the Civil War' (1887–88). He induced General Grant to write his 'Memoirs,' and, with John Muir, set on foot the movement resulting in the creation of the Yosemite National Park. He was the originator of the Memorial to Keats and Shelley in Rome, and has been active in many national movements, notably the forest conservation movement. He became permanent secretary of the American Academy of Arts and Letters. His writings include 'The Winter Hour and Other Poems' (1891), and 'Songs of Liberty and Other Poems' (1897); 'Poems' (1902); 'Poems,' enlarged (1908); 'Saint Gaudens: An Ode' (1910; 4th ed., 1913); 'Italian Rhapsody and other Poems of Italy' (1917).

JOHNSON, Rossiter, American author and editor: b. Rochester, N. Y., 27 Jan. 1840. He was graduated at the University of Rochester in 1863 and was associate editor of the Rochester *Democrat* 1864–68. From 1869 to 1872 he edited the Concord (N. H.) *Statesman;* and in 1873–77 was associated with George Ripley and Charles A. Dana in editing the American Cyclopædia, while in 1879–80 he aided Sydney Howard Gay in his 'History of the United States.' In 1883–1902 he was editor of the *Annual Cyclopædia,* and since 1900 has been editor of the 'Universal Cyclopædia.' He edited the series of 'Little Classics' (18 vols., 1874–80); 'Liber Scriptorum' (1893), and was editor-in-chief of the 'World's Great Books' (50 vols., 1898–1901); 'Great Events by Famous Historians' (20 vols., 1904), and of 'The Authors' Digest' (1909). In 1906, in collaboration with Dora Knowlton Ranous, he edited 'The Literature of Italy' (16 vols., 1906). His original works include 'Phaeton Rogers,' a novel of boy life (1881); 'A History of the French War ending in the Conquest of Canada' (1882); 'History of the War of 1812' (1882); 'Idler and Poet,' verse (1883); 'History of the War of Secession' (1888); 'The End of a Rainbow,' a story (1892); 'The Hero of Manila' (1899); 'Short History of the War with Spain' (1899); 'Morning Lights and Evening Shadows,' poems (1902); 'The Alphabet of Rhetoric' (1903); 'The Clash of Nations' (1914); 'Captain John Smith' (1915), and 'Episodes of the Civil War' (1916); 'Biography of Helen Kendricks Johnson' (1917).

JOHNSON, Samuel, American college president, first president of King's College (now Columbia University): b. Guilford, Conn., 14 Oct. 1696; d. Stratford, Conn., 6 June 1772. He was graduated at Yale College in 1714, and two years later appointed tutor there. In 1718 he resigned to receive ordination as a Congregational minister, and settled at West Haven. He relinquished his charge in 1722 and soon after sailed for England, where he received Episcopal ordination in 1723. Shortly after he returned to America, bearing a commission as missionary of the Society for the Propagation of the Gospel in Foreign Parts, and settled in Stratford, Conn., as rector of an Episcopal church there. In 1743 he received the degree of D.D. from the University of Oxford. In 1746 he published 'A System of Morality,' and in 1752 a compend of logic and metaphysics, and another of ethics; the two latter were printed in Philadelphia by Franklin as textbooks for the University of Pennsylvania. In 1755 he was offered the presidency of that university, but de-

clined it. In 1753 he was invited to accept the presidency of the newly founded King's College in New York, in all the plans for which he had been consulted. He did so, but in 1763 resigned and returned to Stratford, where he resumed his parochial duties, revised his previous works and published an 'English and a Hebrew Grammar' (1767). Johnson carried on long controversies upholding apostolic succession and divine sovereignty. Consult Beardsley, 'Life of Samuel Johnson, D.D.' (New York 1876), and Chandler, 'Life of Samuel Johnson' (London 1824).

JOHNSON, Samuel, English man of letters: b. Lichfield, 18 Sept. (N. S.) 1709; d. London, 13 Dec. 1784. He was the son of Michael Johnson, a learned bookseller, and his wife, Sarah Ford. The father was a Jacobitical, High Church Tory, somewhat given to melancholy, and not methodical in habits. The son took after him in these particulars. Of the mother little is known. They had another son, Nathaniel, born in 1712, who died at 25. The elder Johnson was a man of some local importance, church warden, sheriff and bailiff, but before his death in 1731 his business had declined until he was nearly bankrupt.

Samuel is said to have been a very precocious child, but his mental forwardness could not compensate for his bodily defects. His face was deeply marked by scrofula and one eye was permanently injured, Queen Anne's touch profiting him nothing, but leaving in his loyal memory a vague picture of a "lady in diamonds and a long black hood." He was first taught by a dame, later at the Lichfield school. Being lazy and lumbering he early exerted his powers of command upon his fellows by making three of his mates carry him to school. In 1726, he was sent to school at Stourbridge for a year. Then he remained for two years at home, where he did little except to read widely among his father's books. His talents impressed a neighboring gentleman, who offered to send him to Oxford. Johnson entered Pembroke College as a commoner 31 Oct. 1728, remained in continuous residence a little over a year, and returned for brief periods, until the autumn of 1731. He was wretchedly poor during his college residence, and he left without a degree because of his father's business troubles. The stories of his haranguing students in a tattered gown and flinging away in a passion a pair of shoes left at his door are well known. His unusual learning seems to have impressed the college authorities from the beginning, and his Latin translation of Pope's 'Messiah,' printed in 1731 in a "miscellany," pleased that famous poet. But Johnson was too indolent and hypochrondriacal to profit greatly from the college routine, and the cutting short of his academic career is thus not specially to be regreted.

After his father's death he found himself obliged to earn his living by teaching school and acting as chaplain to a baronet, who did not treat him kindly. He soon gave up the place and removed to Birmingham, where he lived with an old schoolmate named Hector and became a bookseller's hack. The only fairly important work of these years was his translation, through the French, of the Portuguese Lobo's 'Voyage to Abyssinia,' which appeared in 1735. Johnson is said to have walked to Oxford to get a copy of the French version, which has never yet found its way back to the shelves of the Pembroke College library.

In 1735 he made a marriage which has afforded posterity a great deal of amusement. Among his acquaintances in Birmingham was a mercer named Henry Porter, who died in 1734, leaving a widow and three children. In a little less than a year Johnson married the widow, who was about 20 years his senior. Johnson declared that it was a love match on both sides, and his own constancy to her throughout her life and his devotion to her memory prove that for himself at least he did not exaggerate. Despite his uncouth appearance, his eccentricities, his visionary and morbid qualities which made some people think him insane, the widow is said to have recognized that he was at bottom one of the most sensible of men. According to Garrick he showed no sense of the beautiful in choosing a fat, painted and affected old woman. She showed no prudence in placing her small fortune under the control of a poor young man with apparently slim prospects. Yet as Johnson was nearsighted and could see but little of what shocked others in his wife — if indeed the report of Garrick was not purposely exaggerated — and as he undoubtedly made her a good husband, there seems to be little reason to waste sympathy on either party to the match.

After his marriage Johnson set up a boarding school near Lichfield. His peculiarities naturally prevented him from succeeding. He may have had only three pupils; but one of these, David Garrick, combines with the master himself to make the short-lived school a very famous one. Early in 1737 the two set out together to seek their fortunes in London, Mrs. Johnson being left in Lichfield. They had little money, and Johnson's chief baggage seems to have consisted of part of his tragedy 'Irene' and a few letters of introduction.

The literary adventurer spent his first months in London seeking employment from the booksellers. He lived prudently and seems to have been aided by Henry Hervey, a son of the Earl of Bristol. In the summer he returned to Lichfield and finished 'Irene'; in the autumn he removed permanently to London with his wife.

Macaulay in an excellent paragraph of his admirable essay on Johnson describes the desperate state of authors at the time. In 1736 the day of the patron was drawing to a close, but, although Pope had succeeded in making the public his patron, it was too early for other men to hope to rival him. Writers who under Queen Anne might have received money and political positions were now rather happy when they were sure of their meals. Booksellers kept them under by "sweat-shop" methods. Johnson took his place in the toiling ranks, but, because of his pride, suffered more than most of his brother hacks. His never polished manners deteriorated in cellar restaurants; he became a sloven in his dress and, as all the world knows, he never got over his acquired aversion to clean linen. Much of the brutality of manners for which he was afterward reproached is accounted for by the rough treatment to which he was subjected at this period of his career.

The details which Boswell was able to gather with regard to the early life of his hero are not very ample. After 'Irene' was refused by a

manager, Johnson secured employment with Cave in 1738, revising for *The Gentleman's Magazine* the parliamentary debates, which could be published only as if they had occurred in the senate of Liliput. From July 1741 to March 1744 he wrote the debates, making use of notes taken by others. They were often regarded as genuine, few readers knowing that the writer, to use his own words, had taken care that the Whig dogs should not have the best of it.

Meanwhile in 1738 Johnson had published through Dodsley his first important piece of work, the satire entitled 'London,' in which he imitated Juvenal's third satire as Boileau and Oldham had done before him. Being a strong, manly spirit and having his own sufferings and indignities to spur him on, he produced a poem which seemed so good to his contemporaries that the first edition was exhausted in a week. Pope inquired who the author was and endeavored to have him elected to the mastership of a school. The project failed and Johnson remained in London gathering the knowledge of writers and life that stood him in such good stead in his later criticism.

This knowledge was first displayed on a considerable scale in his life of Richard Savage (q.v.), which appeared in February 1744 Johnson, who had been much thrown with Savage, took that curious personage far too seriously; but his small biography is not only valuable as an excellent description of the literary Bohemianism of the day, but is important as one of the first books of its kind to abandon a stiff and formal or a stately tone, and to present a life simply and vividly. When we praise Boswell as a biographer, we ought not to forget that his great subject gave him instructions which the Scotchman bettered.

Little is heard of Johnson for the next two or three years, but his fame must have grown, for in 1747 he was employed by a sort of booksellers' syndicate to prepare an English dictionary, this project superseding that of an edition of Shakespeare, which he contemplated in 1745. The dictionary was to be in two folio volumes for which he was to receive £1,575. The entire cost of preparing copy fell on him, however, hence the bargain was not a profitable one to the needy scholar except in so far as it enhanced his reputation. He issued a plan of his work dedicated to Lord Chesterfield; did a large amount of reading to secure quotations; employed six amanuenses to copy such citations as he had marked; supplied etymologies and definitions; and finally on 15 April 1755 stood forth to the world as "the great lexicographer." All things considered, it was a monument of scholarship despite its compiler's ignorance of the history of the language. Of its definitions, excellent as a rule, the humorous ones, such as that oats is a grain used for horses in England but for people in Scotland, are mainly remembered; but it should not be forgotten that Johnson not only far surpassed his predecessors, but also laid the foundations on which subsequent lexicographers have reared more imposing structures. The dictionary is also remembered as the occasion of Johnson's writing one of the most famous of all letters — that to Lord Chesterfield, who had neglected him for years but on the eve of the publication of the great work wrote flattering notices of it in the hope that it might be dedicated to him. Johnson's letter of 7 Feb. 1755 is remarkable not merely for the dignity with which he refused to be encumbered with help after he had safely reached the shore unassisted, but also for the touching pathos with which he referred to his disillusionment and his loneliness. His "Tetty," for whose sake he had labored so heroically, was not by his side to share his rewards. She had died in March 1752.

The completion of the "Dictionary" in eight years would have been sufficient work and glory for a more than ordinary man of letters; but between 1747 and 1755 Johnson added greatly to his reputation in other ways. In January 1749 the second of his celebrated satires appeared, 'The Vanity of Human Wishes,' based upon the tenth satire of Juvenal. It is better than the 'London,' indeed it is one of the best sententious pieces of moralizing in verse to be found in English literature. It brought Johnson only 15 guineas. He received nearly £300 in benefits and copyright for his tragedy 'Irene,' which Garrick produced in February 1749. Even Garrick's acting and Johnson's appearance in a box clad in a gold-laced hat and a gold-laced scarlet waistcoat could not save so undramatic a performance. It ran nine nights; the person who has read it nine times has probably never existed.

More important than his reappearance as a poet was his assumption of the rôle of periodical essayist. His famous semi-weekly imitation of *The Spectator*, entitled *The Rambler*, which ran from 20 March 1750 to 14 March 1752, was not specially successful as a journal, but when the numbers were gathered into volumes, which Johnson most carefully revised, the work became very popular. That it was the equal of *The Spectator*, as the novelist Richardson, who wrote the only really popular number, and other contemporaries declared, nobody now believes. That it should have held its own against so formidable a rival, when so many other attempts had failed, is a clear proof that it had genuine merits. It certainly established Johnson's fame as a moralist, and, if we omit the papers in which he clumsily attempted to be entertaining as well as some of his specifically critical essays, we can still find in its pages more sound thought and feeling with regard to human life in its lights and shadows than can be discovered in the pages of most of the essayists we actually read. Johnson's contemporaries were also greatly impressed by his elaborate, balanced, Latinistic prose style. The effects of this both upon the prose of his period and upon his own reputation were injurious. Even to this day most people think of Dr. Johnson — he was not yet M.A., that degree coming to him from Oxford, partly in reward for *The Rambler*, in time to be printed on the title page of the Dictionary — as a pompous affected writer who never used a short English word, if he could find a long Latin one to put in its place. *The Rambler* and other works produced when he was about 40 give a basis of truth to this opinion; but we should remember that as he grew older and after he had had much practice as a racy talker, his style became simpler and stronger.

The last number of *The Rambler* was written when Mrs. Johnson was dying. He mourned her loss sincerely through 32 years of widower-

hood. He did not see her painted cheeks or hear her affected giggles; he saw only an ideal being whose death left him desolate. No one can read the numerous references to her in his 'Prayers and Meditations' (1785) without feeling a profound respect for the blinded man.

During the years between 1752 and 1759, that is between *The Rambler* and 'Rasselas,' Johnson not only published the Dictionary, wrote essays for his friend Dr. Hawkesworth's 'The Adventurer' (1753–54), and edited and contributed to the *Literary Magazine, or Universal Review* (1756–58), but also issued proposals for the edition of Shakespeare he had long contemplated (1756), and began a new series of essays, *The Idler*. He lazily put off the Shakespeare until a taunt by the satirist, Charles Churchill, in 'The Ghost,' to the effect that he was cheating the subscribers who had paid in their money forced him to go to work on the promised edition, which finally appeared in 1765. Naturally, it was not a monument of scholarship, but it contained some sound criticism, and its preface has long been regarded as one of the most sensible introductions to the reading of Shakespeare that we possess. *The Idler* ran in weekly numbers from 15 April 1758 to 5 April 1760 on Saturdays in Newberry's 'Universal Chronicle.' It was collected in two volumes in 1761 and in part deserved its title, for it was distinctly less ponderous than *The Rambler*.

It is at this period that the Johnson who has impressed the world's imagination as a man begins clearly to emerge. He was still the old impecunious Johnson, for the year after the Dictionary appeared he was twice arrested for debt. But he was slowly improving his finances, and he was gathering around him friends who were better than riches. He had long delighted in tavern clubs where he met queer characters, such as the forger, Psalmanazer (q.v.). In 1749 he organized a club of his own at the King's Head, which included Bathurst, Hawkesworth, and his future biographer, Sir John Hawkins. Then he formed friendships — destined to become more famous because they figured so frequently in Boswell — with the accomplished Grecian Bennet Langton, with the gay, fashionable Topham Beauclerk, with Sir Joshua Reynolds and Dr. Burney, and, a trifle later, with Goldsmith and Burke. An humbler circle of friends is still more picturesque — to wit, the unfortunates he received into his gloomy house after his wife died — blind Miss Anna Williams, good talker but peevish, Robert Levett, the self-educated physician of the poor, to whose memory Johnson consecrated one of the most pathetic of English elegies — and later, Mrs. Desmonlins and Miss Carmichael. These dependents, as was natural, quarreled among themselves and harassed their benefactor. Another inmate of his house, of whom we frequently hear, was his black servant, Francis Barber.

In January 1759 Johnson's old mother died at Lichfield. The story that he wrote 'Rasselas, Prince of Abyssinia,' in a week, to pay her funeral expenses is, as is usual, not altogether accurate. It seems to have been begun before her death, mainly in order to defray the cost of a visit to her. When published, it became the most popular of his writings, and it still has readers and ranks as a classic, although a ponderous one. It has little narrative interest, lacks the atmosphere of the East, presents us with personages rather than with persons, and makes them talk in an impossibly magniloquent style; yet, when all deductions are made, it remains not only a strong attack upon the fashionable shallow optimism of the day which Johnson detested, but also one of the most manly utterances on the evils of life and the courage needed to combat them that has ever been heard from an English moralist. In literary ability Johnson was inferior to Voltaire, whose witty 'Candide,' by a curious coincidence, attacked the optimists almost contemporaneously with 'Rasselas'; but in moral force the advantage was entirely on Johnson's side.

Three years after 'Rasselas' began its long life in numerous editions and translations, Johnson's own life was almost entirely changed. In July 1762, despite his famous uncomplimentary definition of "pension," he accepted one of £300 per annum. He was independent enough to be able to afford being slightly inconsistent, and he did not promise to support the Tory government in return for its favors. Pensioned or unpensioned he would have taken his reactionary position on American affairs, whether or not he would have written his unfortunate 'Taxation no Tyranny' (1775), just as naturally as he took part in exposing the Cock Lane Ghost (1762).

His pension gave Johnson full opportunity to indulge his constitutional sluggishness. He could afford to write only now and then, to lie in bed till the afternoon, to spend the evening at a tavern laying down the law to his hearers. Thanks partly to his genius for conversation and friendship, partly to his rooted dislike of solitude, he grew to be more and more of a club-man, as the word was then understood, and it was in this capacity rather than as a productive man of letters that he became the literary dictator of his time. As Macaulay remarks, between 1765 and 1775 Johnson published only what it would scarcely have taken him a week to write if he had been working at his old rate of speed. Instead of writing he talked, and when he came forward again as an author, the vigorous English of his conversation got the better of the stately Latin of his pen. About the beginning of 1764 he became the chief figure of the famous club which for nearly 20 years held weekly or fortnightly meetings at the Turk's Head, Soho. Besides Johnson, its chief members were Reynolds, Burke, Goldsmith, Gibbon, Garrick, Sir William Jones, and, last but not least, James Boswell, whom Johnson caused to be elected early in 1773. Langton, Beauclerc, Bishop Percy, Fox, and others nearly or quite as distinguished, were also members. It is perhaps not so surprising that these men admitted Boswell at Johnson's solicitation as that Johnson should have tolerated the bibulous, gossiping little man, who hailed from a part of Great Britain for which the sturdy English moralist had always professed a great dislike. The matter can no more be settled by explanation than Johnson's infatuation with Mrs. Porter. Boswell, with all his faults, must have been amusing, and his devotion to his master doubtless touched that essentially kind though rough personage. At any rate, posterity, which owes so much to Boswell, has no occasion to criticize harshly either of the apparently ill-

assorted friends. It is better to remember that, although several other members of the club wrote books that have stood the wear and tear of time more successfully than most of Johnson's writings have done — Burke, Goldsmith and Gibbon, for example, and Boswell himself — the fact that Johnson dominated such men speaks volumes for his essential greatness as a man. Mere dictatorial rudeness and other qualities natural to an *Ursa Major*, as the poet Gray used to denominate him, are not sufficient to explain the phenomenon.

Boswell is not the only person who lives in literature because he was once associated with Johnson. Henry Thrale, the brewer, and his bright, gay wife are mainly remembered, because after 1764 Johnson passed much of his time at the brewery in Southwark and at their villa at Streatham, leaving his new house in Fleet street to be occupied in the main by the queer recipients of his bounty already mentioned. He now became somewhat more polished in his manners and enjoyed the society of such interesting women as Fanny Burney (Mme. D'Arblay, q.v.), Hannah More (q.v.), Mrs. Montagu and Mrs. Carter. The literary lion in such company presents a picture very different from that of the adventurer wandering the streets with Savage. Boswell gives so many interesting pictures of the later Johnson that it is difficult to select the most striking. The interview with George III was a great event in the life of so loyal a subject. It took place in February 1767. His softening down in the presence of that amusing radical, John Wilkes, showed him in a still happier light. His excursions, whether with Boswell or the Thrales, to the Hebrides (1773), to Wales (1774) and to France (1775) — to say nothing of visits to his old friends at Oxford and elsewhere, had their share with time in mellowing his character and widening his outlook upon men and institutions. 'A Journey to the Western Isles,' the account he gave of his visit to Scotland with Boswell, upon which the latter wrote a more sprightly book, would have given far more offense to the Scotch if it had been written two decades earlier. It was published in 1775, the year Oxford, following Dublin by 10 years, made him a doctor, and is a dignified and worthy book; but it is probably chiefly remembered because in it Johnson severely handled James Macpherson of Ossian fame, a fact which led to Macpherson's challenging him, and to Johnson's purchasing a stout stick, which he did not have occasion to use on his challenger.

Two years later — Easter Eve 1777 — a committee representing many of the best London booksellers called upon Johnson to ask him to furnish introductions to a proposed series of the works of the English poets since the Restoration. The project pleased him, he named a compensation far too low (200 guineas, subsequently increased by £200 by the booksellers), shook off his lethargy and by 1781 had finished the most famous of his books, the 'Lives of the English Poets,' which appeared (collected) in 10 small volumes (1779, 1781). This latest work was, in literary merit, by far his best. He was in sympathy with most of the poets he had to treat, he had amassed through reading and gossip much information about them, he had mellowed with age, the common sense and sound morality, which are the best features of his criticism, had full chance to display themselves, and his style was no longer ponderous and unidiomatic. The life of Milton was marred by prejudice, religious and political, as well as by lack of appreciation of such a poem as 'Lycidas,' the life of Gray was unsympathetic and inadequate; but the chief lives, such as those of Cowley, Addison, Dryden, Swift, Pope and Savage, left little to be desired, and many of the minor sketches were intelligent, to the point, and, not infrequently, humorous in a somewhat grim fashion. In short, the book well deserves the place it has secured as an 18th century classic.

After its publication Johnson aged rapidly, and what with the loss of friends (like Thrale in 1781, and Levett in 1782), and with his dread of death and his increasing infirmities of gout and asthma, the last three years of his life were very painful. A break with Mrs. Thrale in consequence of her attachment to the Italian Piozzi, whom she married in 1784, led to his going back to his house in Fleet street, to recriminations and bad temper trying both to him and to her, and finally to his last letter to her, which is pathetic in the extreme. In the summer of 1783 he had a paralytic stroke; recovering, he tried, more or less in vain, to forget his miseries in his clubs, old and new. He visited Oxford with Boswell; plans were formed to get him to Italy, but failed; and in November 1784 he entered upon his last illness. Physicians and friends served him with the utmost kindness, his fears of death subsided, and after bravely undergoing operations and giving many proofs of his unfeigned piety, he died peacefully on 13 Dec. 1784. Seven days later he was buried in Westminster Abbey.

Johnson's massive figure and disfigured face, his swaying backward and forward, his muttering prayers to himself, his touching all the posts he passed, his bad manners at table, his 25 and less cups of tea, his slovenliness, his near-sightedness — all his moral and physical peculiarities are known wherever Boswell is read. We do not so frequently recall his generosity in making advances after a quarrel, his love of children, his chivalry toward women, his loyalty to his friends, his charity to the poor, his hatred of tyranny in every form. We remember his prejudices and superstitions without recalling the fact that he inherited them in large measure. By insisting upon his eccentricities we tend to overlook his splendid triumph over bodily infirmities and social drawbacks that would have quelled a less resolute spirit. Johnson at bottom was of heroic mold — courageous, tender, large-minded, sound-hearted. His peculiarities make him picturesque; study of his character and his career reveals him to have been truly great as a man. As a man of letters he is also great, through his influence upon the literature of his period, through his services to lexicography, through the solid intelligence and morality of his essays and 'Rasselas,' through the sanity of his best criticism, and through the vitality of his biographical sketches. But as a writer of books that are judged solely on their intrinsic merits of style and substance Johnson can scarcely be termed great. His complete works have been but rarely reprinted in the past 80 years and are little read. As an essayist and letter-writer, and poet, he is not in the highest class; 'Rasselas' is found to

be heavy reading by most people; the 'Lives of the Poets' are perused in their entirety by but few. Boswell does much more to preserve Johnson's fame than the great Doctor's own writings; but the value of these is easily underestimated, and Boswell's biography would not have been such a great book if Johnson had not been such a great man. See LIVES OF THE POETS; RAMBLER, THE; RASSELAS; VANITY OF HUMAN WISHES.

Bibliography.— Good editions of Boswell's 'Life of Samuel Johnson' are by G. Birkbeck Hill (6 vols., Oxford 1887) and by Roger Ingpen (2 vols., New York 1909). Other editions of importance are those by Malone (6th edition of the work, 1811), Croker (11th edition, 1831; revised, 1835), Percy Fitzgerald (1874), Rev. Alexander Napier (1884). Other sources of information are the biography by Sir John Hawkins (1787), Arthur Murphy's 'Essay on the Life and Genius, etc.' (1792), Mrs. Piozzi's 'Anecdotes' (1786), and her 'Autobiography' (1861), the Diary of Mme. D'Arblay (1841, now edited anew by Austin Dobson), and, in general, books dealing with the chief men of the time, Goldsmith, Reynolds, Burke, etc. Consult also the short lives by Leslie Stephen ('English Men of Letters,' London 1879), and Col. F. Grant ('Great Writers,' ib. 1887); Dennis, J., 'Dr. Johnson' (New York 1905); Raleigh, W. A., 'Samuel Johnson' (Oxford 1907); id., 'Six Essays on Johnson' (ib. 1910); Shorter, C. K., 'Immortal Memories' (New York 1907); Piozzi, H. L. T., 'Dr. Johnson's Mrs. Thrale' (ib. 1910); Broadley, A. M., 'Dr. Johnson and Mrs. Thrale' (ib. 1910); Burney, F., 'Dr. Johnson and Fanny Burney' (ib. 1911); Bailey, J. C., 'Dr. Johnson and His Circle' (ib. 1913). The chief critical essays are by M. Arnold, Birrell, Carlyle, Macaulay and Leslie Stephen. Consult also Birkbeck Hill's 'Dr. Johnson and His Friends' (1878), and 'Johnsonian Miscellanies' (1897), and Whitwell Elwin's 'Some Eighteenth Century Men of Letters' (1902). Johnson's works were edited by Hawkins in 1787 in 11 volumes (to which two volumes edited by Stockdale were added later). Several editions by Arthur Murphy followed (1792, 1796, etc.), then two by Chalmers (1810, 1816), and finally in 1825 came the best, the Oxford edition in 11 volumes, edited by F. P. Walesby and containing the Parliamentary Debates. Johnson's 'Letters,' save those included in Boswell's, were edited by Birkbeck Hill in 1892 (2 vols). Reprints of separate works have been very numerous, of late chiefly for school use. The best editions of 'Rasselas' are those by Birkbeck Hill (1887), and O. F. Emerson (1895). The 'Lives of the Poets' were edited by Peter Cuningham in 1854, by Mrs. Napier in 1890 and by Arthur Waugh in 1896; but these have been superseded by the monumental edition of Birkbeck Hill (3 vols., 1905). Matthew Arnold edited six of the lives in 1878.

WILLIAM P. TRENT,
Professor of English Literature, Columbia University.

JOHNSON, Samuel, American preacher and author: b. Salem, Mass., 10 Oct. 1822; d. North Andover, 19 Feb. 1882. He was graduated from Harvard in 1842, and from the Harvard Divinity School in 1846. He joined no religious denomination, and save for one year with a Unitarian church in Dorchester was not settled as a minister until 1853, when he established in Lynn, Mass., an independent society, with which he remained till 1870, then withdrew to complete studies of many years, the results of which appeared later in his publications. With Samuel Longfellow (q.v.) he compiled a 'Book of Hymns' (1846) and 'Hymns of the Spirit' (1864). Some of his own inspiring hymns in these books are now found in the collections of various denominations. His critical study 'The Worship of Jesus' (1868), written in accordance with his views of universal religion, is described by O. B. Frothingham as "perhaps the most penetrating and uplifting essay on that subject in any language." He printed notable essays on religion, reform, etc., in *The Radical* and other periodicals. His great work 'Oriental Religions,' including 'India' (1872), 'China' (1877) and 'Persia' (1885)— the last containing an introduction and a critical estimate of Johnson by O. B. Frothingham — represents what Johnson himself calls his "purely humanistic point of view." His philosophy was highly transcendental; but being versed in many languages, he was acquainted with all schools, and with the results of history, literature, science and criticism in every department. 'Oriental Religions,' in the task of writing which scholars have compared his competence, patience and thoroughness with the same qualities in Darwin, has taken its place among the most learned and liberal contributions to the study of comparative religion and civilization. Prof. E. J. Eitel, the German Orientalist, wrote of "Johnson's pre-eminent merits as the historian of universal religion," and F. Max Müller paid him tribute as the finder of "a religion behind all religions." His 'Theodore Parker' (1890) is a profoundly spiritual interpretation of that preacher and reformer, whose work on the intellectual side was surpassed by Johnson's, while on the moral side, as in the anti-slavery conflict, they stood as equal comrades. A little volume of Johnson's hymns, with other poems, was published in 1899. Consult Longfellow, 'Lectures, Essays and Sermons by Samuel Johnson, with a Memoir' (Boston 1883). This volume contains some of Johnson's best papers, including brilliant lectures on 'Switzerland' and 'Florence,' the outgrowth of searching observations in Europe, 'Equal Opportunity for Woman,' 'Labor Parties and Labor Reform,' and an illuminative essay on 'Transcendentalism.'

JOHNSON, Samuel William, American chemist: b. Kingsboro, N. Y., 3 July 1830; d. 1909. He studied at Yale Scientific School and the universities of Leipzig and Munich. In 1856 he became professor of analytical chemistry in the Sheffield Scientific School of Yale, taught agricultural chemistry there 1857–75, and from 1875 to 1896 was professor of theoretical and agricultural chemistry, becoming in 1896 professor emeritus. He was director of the Connecticut Agricultural Experiment Station from 1877 to 1899. In 1858 he was made chemist to the State Agricultural Society, in which capacity he issued an important series of papers on commercial fertilizers and allied subjects. He was elected to the National Academy of Sciences, and in 1878 was president of the American Chemical Society. He published

'Essays on Peat Muck and Commercial Manures' (1859); 'How Crops Feed' (1870); 'Peat and Its Uses' (1866); 'How Crops Grow' (1868), and edited Fresenius' 'Quantitative Chemical Analysis' (1864, 1875, 1883).

JOHNSON, Thomas, American statesmen: b. Saint Leonard's, Md., 1732; d. 1819. He studied law at Annapolis, was elected to the first Continental Congress (1774), was again sent to Congress in 1776, moved the appointment of Washington as commander-in-chief, and in the same year became brigadier-general of Maryland militia, going to Washington's relief in the winter of that year. In 1777 he was chosen governor of Maryland, remaining in office until the close of 1779, and rendering important services to the Continental Congress and its forces. In 1780 he entered the provincial congress and the house of delegates, in 1781–87 was in the Continental Congress, where he supported the Constitution and was a member of the Maryland Convention which ratified that instrument in 1789. In 1791 became an associate justice of the United States Supreme Court, and later declined the office of chief justice. He was a member of the commission which laid out the city of Washington.

JOHNSON, Thomas Cary, American theologian: b. Fishbok Hill, Va., 9 July 1859. He was graduated at Hampden-Sidney College (1882) and took diplomas in Latin, Greek and mathematics (1883–84) at the University of Virginia, then graduating in theology (1887) at Union Theological Seminary, Virginia. He was appointed professor of Old and New Testament exegesis at Austin (Tex.) Theological School (1889–90), and was ordained to the ministry in 1890, becoming pastor-elect of the Third Church, Louisville, Ky. (1890–01). He was made a member of the faculty of Union Theological Seminary, Richmond, Va., filling chairs of English Bible and pastoral theology (1891–92), ecclesiastical history and polity (1892–13), systematic theology since 1913. He wrote 'History of the Southern Presbyterian Church' (1894); 'John Calvin and the Genevan Reformation' (1900); 'Life and Letters of Robert Lewis Dabney' (1893); 'Life and Letters of Benjamin Morgan Palmer' (1906); 'Virginia Presbyterianism and Religious Liberty' (1907); Introduction to Christian Missions' (1909); 'Baptism in the Apostolic Age' (1912).

JOHNSON, Thomas Loftin, American capitalist and municipal reformer: b. Georgetown, Ky., 18 July 1854; d. Cleveland, Ohio, 10 April 1911. He was clerk in a street railway office (1869–75), and invented several street railway devices, included the Johnson rail and a fare box; became owner of a street railway in Indianapolis and later acquired large interests in Cleveland, Detroit and Brooklyn; he was also interested in iron manufacture in Cleveland. He disposed of his railway properties and became prominent in politics as a member of the Democratic party, and known as an advocate of the single tax and public ownership of public utilities. His plans for municipal ownership attracted nation-wide attention. Though opposed to the free coinage of silver, he supported Bryan in 1896 and 1900, and the State convention which he controlled unanimously endorsed the Kansas City platform. He was a member of Congress, 1891–95. In 1901 he was elected mayor of Cleveland, and was re-elected 1903, 1905 and 1907. He transformed the city government by introducing several radical reforms. He was an advocate of three-cent street railway fares. In 1903 he was the Democratic candidate for governor of Ohio, but was defeated. He quitted public life in 1910. Consult his autobiography, 'My Story,' edited by E. J. Hauser (New York 1911).

JOHNSON, Virginia Wales, American novelist: b. Brooklyn, N. Y., 28 Dec. 1849. Since 1875 she has lived in Florence, Italy. Her publications, mainly for young folk, include 'Kettle Club Series' (1870); 'Travels of an American Owl' (1870); 'Joseph the Jew' (1873); 'A Sack of Gold' (1874); 'The Catskill Fairies' (1875); 'The Calderwood Secret' (1875); 'A Foreign Marriage' (1880); 'The Neptune Vase,' her finest work (1881); 'The [illegible] of Tipton' (1885); 'Tulip's Place' Fainalls (1886); 'Miss Nancy's Pilgrimage' (1887); 'The House of the Musician' (1887); 'The World's Shrine' (1902); 'A Lift on the Road' (1913); and other fictions and several descriptive works, such as 'Genoa, the Superb'; 'The Lily of the Arno'; 'Lake Como'; 'Many Years of a Florence Balcony' (1911).

JOHNSON, Sir William, British superintendent-general of Indian affairs in North America: b. Smithtown, County Meath, Ireland, 1715; d. near Johnstown, N. Y., 11 July 1774. His uncle, Sir Peter Warren, offered his nephew the management of his entire property in New York, if the latter would undertake its improvement and settlement. Johnson accepted the offer and in 1738 established himself upon a tract of land on the south side of the Mohawk, about 25 miles from Schenectady, which Sir Peter had called Warrensburgh. In addition to the settling and improving of the country, he embarked in trade with the Indians, whom he always treated with perfect honesty and justice. He became a master of their language, speaking many of their dialects as perfectly as they did themselves and was thoroughly acquainted with their beliefs and customs. He was adopted by the Mohawks as one of their own tribe, chosen a sachem and named Warraghejaghe, or Warraghiaghy, "he who has charge of affairs." In 1744 he was appointed colonel of the Six Nations, in 1746 commissioner of New York for Indian affairs. In 1750 he became a member of the provincial council. In 1754 he attended as one of the delegates from New York the congress of Albany and also the great council held with the Indians on that occasion, at which they strongly urged his reappointment as their superintendent. At the council of Alexandria, 14 April 1755, he was sent for by Braddock and commissioned by him "sole superintendent of the affairs of the Six United Nations, their allies and dependents." He was also, pursuant to the determination of that council, created a major-general and commander-in-chief of the provincial forces destined for the expedition against Crown Point. At the head of these forces, in September 1755, he defeated Baron Dieskau at Lake George. This victory saved the colony from the French and Johnson received the thanks of Parliament for his vic-

tory, was voted £5,000 and on 27 Nov. 1755, created a baronet of Great Britain. On his arrival at Lac Saint Sacrament a few days before this battle, he gave to it the name of Lake George, "not only in honor of his majesty, but to assert his undoubted dominion here." In March 1756 he received from George II a commission as "colonel, agent, and sole superintendent of the affairs of the Six Nations, and other northern Indians." He held this office for the rest of his life. In 1758 was present with Abercrombie at Ticonderoga. General Prideaux led the expedition against Fort Niagara in 1759. Johnson was second in command and upon the death of Prideaux, before that fort, succeeded to the command in chief. With upward of 1,000 Indian allies he continued the siege with great vigor and cut to pieces the French army. He led the same Indian allies the following year in the Canadian expedition of Amherst and was present at the capitulation of Montreal and the surrender of Canada to the British arms in 1760. The war was now at an end and the king granted to Sir William for his services a tract of about 100,000 acres of land, north of the Mohawk. In 1764, the country being at peace and the Indians perfectly contented, Sir William erected Johnson Hall, a large wooden edifice still standing. The village of Johnstown, with stores, an inn, a courthouse and an Episcopal church was soon laid out. In 1772 it became the shire town of Tryon County. Johnson lived in the style of an old English baron of former days and exercised a liberal hospitality. In 1768 he concluded the Treaty of Fort Stanwix. He wrote 'The Language, Customs and Manners of the Six Nations,' published in Proceedings of the Philosophical Society of Philadelphia (1772) and his letters have great historical value. Consult 'Calendar of the Sir William Johnson Manuscripts,' compiled by Day (Albany 1909); Buell, 'Sir William Johnson' (New York 1903); Griffis, 'Sir William Johnson and the Six Nations' (ib. 1891); Stone, 'Life of Sir William Johnson' (2 vols., Albany 1865).

JOHNSON, William, American jurist: b. Charleston, S. C., 27 Dec. 1771; d. Brooklyn, N. Y., 11 Aug. 1834. He was graduated (1790) at Princeton, then entered the law office of the celebrated Charles Cotesworth Pinckney and was admitted (1793) to the bar. He represented Charleston at the State legislature till 1798, when he was appointed judge of the Court of Common Pleas. In 1804 Thomas Jefferson appointed him associate justice of the United States Supreme Court. He was an adherent to the Jefferson political principles but was firm in all matters respecting his reading of the law. This brought him into collision with the President in the celebrated "Embargo" act, which he declared illegal and he belonged to the minority in the matter of the South Carolina nullification proceedings. He found opposition to him so strong that he had to leave the State for a time, going (1832) to western Pennsylvania, then to Brooklyn, N. Y., where he died. He wrote 'The Life and Correspondence of Major-General Nathaniel Greene' (1822), and in 1826 he published a eulogy on Adams and Jefferson.

JOHNSON, William Samuel, American jurist: b. Stratford, Conn., 7 Oct. 1727; d. there, 14 Nov. 1819. He was the son of the Rev. Samuel Johnson (q.v.), first president of King's College (Columbia University), New York. He was graduated from Yale in 1744, was admitted to the bar, practised in the New York and Connecticut courts, in 1761 and 1765 represented Stratford in the Connecticut general assembly, or lower house, and in the latter year was a Connecticut delegate to the Stamp-act congress at New York. In 1766 he became a member of the governor's council or upper house of the Connecticut legislature, in 1766–71 was in England as special agent for the colony in defense of its title to land obtained from the Mohegan Indians, in 1771 re-entered the council, and for a time in 1772 was a judge of the Superior Court of the colony. After Lexington, he was a member of a committee sent to General Gage on the unsuccessful mission of inquiring into possible means of peace. Opposed to the Revolution, he remained in private life during its progress, but in 1784–87 was a member of the Continental Congress, in 1787–89 sat in the Connecticut assembly, in 1787–1800 was president of Columbia College, and from 1789 to 1791, when he resigned, was the first United States senator from Connecticut. He resigned the college presidency in 1800 because of failing health and retired to Stratford. Oxford conferred on him the degree of D.C.L. in 1766. He made the acquaintance of Dr. Samuel Johnson during his stay in London, and later corresponded with him. His letters to the governors of Connecticut during his residence in Great Britain have been published in the 'Collections' of the Massachusetts Historical Society, 5th series, Vol. IX (Boston 1885). Consult Beardsley, 'Life of William Samuel Johnson' (Boston 1876).

JOHNSON, William Woolsey, American mathematician: b. Owego, N. Y., 23 June 1841. He was graduated (1862) at Yale University, receiving (1868) the degree A.M., and served on the staff of the United States Nautical Almanac Office (1862–64), at Cambridge, Mass. He was appointed assistant professor of mathematics at the United States Naval Academy, Newport, R. I., and at Annapolis (1864–70), and professor of mathematics at Kenyon College, Ohio (1870–72), and Saint John's College, Maryland (1872–81), returning to the United States Naval Academy in 1881. He was made also professor of mathematics in the navy from 1913. He has written 'An Elementary Treatise on the Integral Calculus' (1881); 'Curve Tracing in Cartesian Co-ordinates' (1884); 'The Theory of Errors and Method of Least Squares' (1890); 'Treatise on Differential Equations' (1889); 'Theoretical Mechanics' (1901); 'Treatise on Differential Calculus' (1904); 'Differential Equations' (1906); monographs on mathematics; 'Treatise on Integral Calculus' (1907); 'An Elementary Treatise on the Differential Calculus' (1908).

JOHNSON, Boswell's Life of. Boswell's 'Life of Johnson' is one of the world's greatest biographies. Apart from its intrinsic literary worth, it is of historical importance in that it marks a culminating point in the general development of biography. From the time of Plutarch, and before, writers had been striving to set forth and follow proper methods of life writing. Boswell summed up and exemplified all the precepts of past method and gave to the

world a model of biography. It is not going too far to say that, since the publication of the 'Life of Johnson' in May 1791, all worth while biographies have followed, as far as possible, the general method employed by Boswell; that they have been, in short, mere variants of the 'Johnson.' It may be seen, therefore, that Boswell's work was both a culmination and an innovation.

In addition to its importance as a landmark in the general history of biography, the 'Life of Johnson' is one of the few classic English lives. Many critics of high rank pronounce it the greatest in the language. Although it is undoubtedly true that the 'Life' has exerted a greater influence upon the course of English biography than has any other single work, it may yet be questioned whether, from every point of view, it may be classed as the greatest of such works in the language. There is no doubt that it is one of the four or five greatest; that only such works as Lockhart's 'Life of Scott,' Trevelyan's 'Life of Macaulay,' Froude's 'Life of Carlyle' and Allen's 'Life of Phillips Brooks' may be put in the same class with it.

The biography is affected by certain limitations under which Boswell worked. In the first place, he did not meet Johnson until 16 May 1763, when the sage was nearly 54 years old. In consequence, about one-fifth of the 'Life' is concerned with the 54 years; the remainder with the 21 years during which Boswell knew Johnson. It was not the struggling and obscure, but the retired and famous Johnson that Boswell knew and recorded. Croker calculated that Boswell met Johnson on 276 days, including the period of the tour to the Hebrides — a time sufficiently brief, indeed, to enable one to write one of the most intimate biographies in existence. Furthermore, Boswell was a man of strong prejudices; he disliked to have Johnson show attention to others and could scarcely brook being outshone in any company. It is to his prejudices that we must lay the account for his attitude in the 'Life' toward such people as Sir John Hawkins, Mrs. Piozzi and Oliver Goldsmith.

The greatness of Boswell's work is the joint result of the subject, the biographer and the plan. Johnson was, perhaps, England's greatest literary dictator and possessed an individuality more interesting than anything he ever wrote. In the sum of his qualities and characteristics, he was a type of the English race. Boswell had the qualities requisite to a faithful delineation of such a subject. He combined strict regard for truth with intense devotion to his task, unsparing zeal in the face of stern rebuffs, willing sacrifice of his own dignity — whenever such seemed necessary, and a dramatic instinct keener almost than that possessed by any other biographer. The plan followed in the 'Life' is autobiographical: as far as he was able, Boswell allowed Johnson to reveal himself by means of conversation, letters and extracts from other written and printed documents. In addition, he included letters written to Johnson and the opinions of Johnson's contemporaries, with the result, to adapt the words of Carlyle, that he showed "what and how produced was Johnson's effect on society; what and how produced was the effect of society on him." Boswell never made the mistake of lapsing into sheer adulation: "I profess," he plainly asserted, "to write, not his panegyric, which must be all praise, but his life; which, great and good as he was, must not be supposed to be entirely perfect." Boswell says that he followed the plan adopted by the Rev. William Mason in the 'Life of Thomas Gray.' One has but to read Mason's dull and colorless work to appreciate the triumph of Boswell's genius; to learn, in fact, of how little comparative importance is mere plan apart from actual genius for writing biography. It is true that Boswell employed no methods that had not been used by biographers as far back as Plutarch; indeed, he refers to Plutarch as "the prince of ancient biographers," and any reader can determine for himself how much Boswell took to heart Plutarch's statement that it is not "always in the most distinguished achievements that men's virtues or vices may be best discerned; but very often an action of small note, a short saying, or a jest, shall distinguish a person's real character more than the greatest sieges or the most important battles." In the matter of recording conversation, and of representing events dramatically, Boswell has had no superior among biographers. The 'Life' portrays Johnson from many angles and vindicates the proud assertion made by Boswell in a letter to William Temple: "I am absolutely certain that my mode of biography, which gives not only a *history* of Johnson's *visible* progress through the world, and of his publications, but a view of his mind in his letters and conversations, is the most perfect that can be conceived, and will be more of a Life than any work that has yet appeared."

"What we want in a biography," wrote William Ewart Gladstone in his *Quarterly Review* article on Trevelyan's 'Life of Macaulay,' "and what, despite the etymology of the title, we very seldom find, is *life*. To fulfil its idea, it must have in it the essential quality of movement. . . . Neither love . . . nor forgetfulness of self will make a thoroughly good biography, without this subtle gift of imparting life. By this it was that Boswell established himself as the prince of all biographers." Gladstone has but voiced the general sentiment of a century and a quarter. What the biographer saw and heard and knew he recorded faithfully; Johnson lives and moves and speaks in our presence. Boswell was wise enough, however, to do more than merely record facts; he interpreted, and his artistic interpretation of Johnson, while ever subject to the censure of being only "an aspect of the truth seen from one particular point of view," has survived the double test of time and criticism, and has earned the palm which is awarded only to true artistry. One sure evidence of Boswell's skill in gradation and in creating the illusion that one has always known Johnson is the fact that few readers ever notice that almost the whole of the book deals with the last 21 years of the subject's life. Limitations the work may have; supplemented as it may be, however, by readings from Mrs. Piozzi's 'Anecdotes of Dr. Johnson,' Fanny Burney's 'Diary,' the 'Life' by Sir John Hawkins, or from any other of the numerous lives, sketches and critical articles that have accumulated during more than a century. Boswell's Johnson is the Johnson that

the world knows, the only Johnson that the world is likely to know intimately as long as the English language endures and men maintain an interest in the vigorous personalities of English literature. Those who would actually know Johnson and obtain "a view of literature and literary men in Great Britain for near half a century during which he flourished," must go directly to Boswell's great work. For it, there can be no substitute. For a discussion of the place of Boswell's work in the development of biography consult Dunn's 'English Biography' (ch. 5).

WALDO H. DUNN.

JOHNSON CITY, Tenn., city in Washington County, on the Southern and other railroads, 106 miles north of Knoxville. Its elevated location and picturesque mountain scenery make it a favorite summer resort for Southern people. Here are located the mountain branch of the National Soldiers' Home and the East Tennessee State Normal School. The manufacturing interests include iron furnaces, rolling-mills, machine shops, tanneries and brickmaking plants, cigar, box, table and furniture factories, a tannery and several woodworking establishments. The city was settled in 1870 and is governed under a charter of 1897, by a mayor and council elected biennially. The city owns the waterworks. Pop. 10,143.

JOHNSON GRASS. See GRASSES IN THE UNITED STATES.

JOHNSON'S ISLAND, Ohio, an island located at the mouth of Sandusky Bay, overlooking Lake Erie, about a mile long and a mile and a half wide. The island was used during the Civil War as a prison for captured Confederates. It was an ideal spot for a prison post. No prisoner was ever known to escape from it. The grounds were enclosed within a fence 12 feet high, with a platform top, upon which sentinels paced to and fro, day and night. To the north Lake Erie stretches away for 50 miles; on the east, separated by three miles of water, lies Sandusky, while west and south of the island are broad stretches of Sandusky Bay. The island was used almost exclusively as a prison for officers, the total number confined there from first to last aggregating over 15,000. The first prisoners were taken there in April 1862 and in September 1865 the last of them were sent to Fort Lafayette and Johnson's Island was abandoned as a prison post. The men confined on Johnson's Island represented the flower of the chivalry of the South. They were largely professional men and planters, among them being many who were prominent in science, literature and art.

JOHNSTON, Albert Sidney, American general: b. Mason County, Ky., 3 Feb. 1803; d. Shiloh, Miss., 6 April 1862. General Johnston had but a brief career in the Confederate army and the first part of that career was one of great disaster and consequently of severe criticism; but he fell "on the field of glory" at Shiloh, and not a few endorse the opinion of President Davis that he was the greatest general whom the war produced. Descended from a long line of illustrious ancestors, he obtained his literary education at Transylvania University and was graduated at West Point 30 June 1826, being number eight in a brilliant class of which Jefferson Davis was a member. He was brevetted second lieutenant in the 2d Infantry, transferred to the 6th Infantry in 1827, was regimental adjutant from 1828 to 1832, aide to General Atkinson a year, and acting assistant adjutant-general to Illinois volunteers during the Black Hawk War — in all of which positions he showed the qualities of an accomplished soldier. He resigned his commission in the United States army 31 May 1834, having determined to settle in Texas and cast in his fortunes with the "Lone Star" Republic.

The battle of San Jacinto was fought 21 April 1836, and soon after Johnston arrived in Texas and enlisted as a private soldier in the Texan army. His merit soon brought him promotion and he was made adjutant-general of the Army of Texas and not long after brigadier-general and chief commander of the army in the place of Gen. Felix Houston. As a result of jealousy growing out of this promotion there was an unfortunate duel between Houston and Johnston, in which the latter was wounded. He continued in command of the Texan army until 1838, when he was made Secretary of War of the Republic of Texas. In 1839 he led an expedition against the hostile Cherokee Indians and in a battle on the Neches defeated and routed them with great slaughter. He used all of his abilities and wide influence in bringing about the annexation of Texas to the United States, and promptly enlisted when the Mexican War broke out, being colonel of a regiment of Texas volunteers. He was distinguished in various battles, especially at Monterey, where he had three horses shot from under him and was highly complimented by General Butler, on whose staff he was serving.

On 31 Oct. 1849 he was appointed by President Taylor paymaster in the United States army, with the rank of major and when the 2d Cavalry regiment was formed he was appointed, 3 March 1855, its colonel on the recommendation of his old classmate and lifelong friend, Jefferson Davis, who was at that time the able and efficient Secretary of War. In 1857 he was put in command of an expedition to Utah to force the Mormons to submit to the laws of the United States government and overcame great difficulties and showed such ability and tact in the delicate mission that he was made brevet brigadier-general. When the war between the States broke out General Johnston was in command of the department of the Pacific, but he very promptly resigned his commission and with a small party made his way across the plains, passing through New Orleans and reached Richmond on 2 September, where he had a cordial reception and was made a full general and assigned to the command of the department of Kentucky, whither he went at once, beginning the able and efficient discharge of his duties there.

It could not be published at the time that he had a force barely 20,000 to defend that long line against overwhelming numbers of the enemy, and he was severely criticised in the newspapers for not being more aggressive and when Forts Henry and Donelson fell and he was compelled to fall back and abandon to the enemy so large a section of Confederate territory that abuse and severest criticism were heaped upon him, he was denounced as incom-

petent and his removal from command was demanded. President Davis calmly said: «If Albert Sidney Johnston is not a general, then I have none to put in his place.» He wrote his old friend a noble letter, and Johnston replied in the same spirit, concluding with this sentiment: «The test of merit in my profession, with the people, is success. *It is a hard rule, but I think it right.* If I join this corps to the forces of General Beauregard (I confess a hazardous experiment), then those who are now exclaiming against me will be without an argument.» He alluded to his plan of uniting with Beauregard to strike Grant before Buell and Mitchel could join him, and in pursuance of which plan he marched from Corinth, Miss., on 3 April, intending to attack Grant at Pittsburgh Landing, or Shiloh Church, 20 miles off on 4 April. There was delay on the part of some of the troops so that the attack could not be made until the morning of the 6th, but with his 40,000 men Johnston attacked Grant's 50,000 with such impetuosity, skill and dash that the Federals were driven back at every point, were huddled together at Pittsburgh Landing and there seemed to be lacking at 2.30 P.M. only one more vigorous advance to annihilate Grant's army. But just at this moment the great commander who had just remarked to one of his staff: «The victory is ours. We shall soon water our horses in the Tennessee River,» was struck by a minie ball in his leg, and bled to death in 15 minutes. In the confusion which followed, the advance was not made. Beauregard (who had been ill in his ambulance all day and did not appreciate the real situation) ordered the Confederate lines to fall back. Buell and Mitchel came up that night with 55,000 fresh troops, and thus the fruits of Johnston's great victory were lost and the next day the Confederates were compelled to fall back to Corinth.

No nobler eulogy could be pronounced on Albert Sidney Johnston than that of President Davis in a special message to the Confederate Congress, in which he said: «Without doing injustice to the living, it may safely be said that our loss is irreparable. Among the shining hosts of the great and good who now cluster around the banner of our country, there exists no purer spirit, no more heroic soul than that of the illustrious man whose death I join you in lamenting. In his death he has illustrated the character for which, through life, he was conspicuous — that of singleness of purpose and devotion to duty with his whole energies. Bent on obtaining the victory which he deemed essential to his country's cause, he rode on to the accomplishment of his object, forgetful of self, while his very life blood was fast ebbing away. His last breath cheered his comrades on to victory. The last sound he heard was their shout of victory. His last thought was his country, and long and deeply did his country mourn its loss.»

It is scarcely extravagant to say that had Albert Sidney Johnston lived the victory at Shiloh would have been complete, the whole character of the campaign in the West would have been changed, and with Lee in Virginia and Johnston in the West, the result of the war might have been different. The monument to Albert Sidney Johnston in New Orleans is one of the most beautiful in the country; he is buried in Austin, the capital of his adopted State. Consult the biography by his son, W. P. Johnston, 'Life of Albert Sidney Johnston' (New York 1878).

J. WM. JONES,
Author and Lecturer.

JOHNSTON, Alexander, American historian: b. Brooklyn, L. I., 29 April 1849; d. Princeton, N. J., 21 July 1889. He was graduated from Rutgers College, New Jersey, in 1870, studied law and was admitted to the bar in 1876. He did not practise, however, and was professor of jurisprudence and political economy at Princeton University from 1883 till his death. He was the author of 'History of American Politics' (1879); 'Connecticut: a Study of a Commonwealth-Democracy' (1887); 'History of the United States for Schools' (1886); and 'The United States: its History and Constitution,' reprinted from the 'Encyclopædia Britannica' (1887).

JOHNSTON, Alexander Keith, Scottish cartographer: b. Kirkhill, Edinburgh, Scotland, 28 Dec. 1804; d. 10 July 1871. His first important work, the 'National Atlas,' was published in 1843. At the suggestion of Humboldt, he visited Germany and gathered material for his 'Physical Atlas of Natural Phenomena' (1848–56), and his 'Royal Atlas of Geography' (1861) was one of the most beautiful and minutely accurate atlases ever published up to that time. His son of the same name (b. 1844; d. 28 June 1879) continued his father's enterprises; and died whilst leading an important exploring expedition to the head of Lake Nyassa.

JOHNSTON, Annie Fellows, American author: b. Evansville, Ind., 1863; sister of Albion Fellows Bacon (q.v.). She is one of two noted sisters, daughters of Rev. Albion Fellows. She was educated at the State University of Iowa and early went into literature and became known as a writer of stories for young people. Her husband, W. L. Johnston, dying in 1892, she was thrown upon the resources of her pen, and thereafter she produced in rapid succession juvenile stories that became very popular and are still extensively read. Among these stories are 'Big Brother' (1893); 'The Little Colonel' (1895), which later, on account of its popularity, gave its name to a long series; 'A Boy of Galilee' (1895); 'In League with Israel' (1896); 'Ole Mammy's Torment' (1897); 'Songs Ysame' (with her sister Albion Fellows Bacon, 1897); 'The Gate of the Giant Scissors' (1898); 'Two Little Knights of Kentucky' (1899); 'The Little Colonel's House Party' (1900); 'The Little Colonel's Holidays' (1901); 'The Little Colonel's Hero' (1902); 'Cicely' (1902); 'Asa Holmes' (1902); 'Islands of Providence' (1903); 'Little Colonel at Boarding School' (1903); 'Little Colonel in Arizona' (1904); 'The Quilt that Jack Built' (1904); 'Little Colonel's Christmas Vacation' (1905); 'In the Desert of Waiting'; 'Three Weavers'; 'Mildred's Inheritance'; 'Maid of Honor'; 'The Little Colonel's Knight Comes Riding' (1907); 'Mary Ware' (1908); 'Legend of the Bleeding Heart' (1908); 'Keeping Tryst'; 'Rescue of the Princess Winsome'; 'The Jester's Sword' (1909); 'Good Times Book' (1910); 'Mary Ware in Texas' (1910); 'Travelers Five' (1911); 'Promised Land'

(1912); 'Miss Santa Claus of the Pullman' (1913); 'Georgina of the Rainbows' (1916).

JOHNSTON, Charles Haven Ladd, American author: b. Washington, 17 July 1877. Educated at Harvard. Teacher of English at Harvard University 1901–02; instructor in English and lecturer on military history at the Massachusetts Institute of Technology (1904–05). Since then he has given most of his attention to literature. Among his published works are 'Little Pilgrimages among the Women Who Have Written Famous Books' (1901); 'Famous Cavalry Leaders' (1908); 'Famous Indian Chiefs' (1909); 'Famous Scouts' (1910); 'Famous Privateersmen' (1911); 'Famous Frontiersmen' (1913); 'Our Little Viking Cousin' (1916).

JOHNSTON, Christopher, American Assyriologist: b. Baltimore, 2 Dec. 1856; d. 1914. He studied (1872–79) at the University of Virginia, receiving the M.A. diploma, then at University of Maryland, where (1880) he received M.D. diploma. In 1888 he became special student of Assyriology at Johns Hopkins, becoming Fellow in Semitics (1889–91) and Ph.D. (1894). From 1880–88 he practised medicine, devoting much study to ancient and modern languages. He was (1891–94) instructor at Johns Hopkins, then (1894–99), associate in Semitics and associate professor Oriental history and archæology from 1899–1908. He wrote 'Epistolary Literature of the Assyrians and Babylonians' (1896), and edited 'Ancient Empires of the East' (1906).

JOHNSTON, Frank, American lawyer: b. Raymond, Miss., 31 Dec. 1843. He was educated at Mississippi College, and at the Western Military Institute of Nashville, Tenn. He fought with the Confederate army in the Civil War and was wounded at the battle of Big Black. Since 1866 he has been a practising lawyer and in 1879 became a member of the Catholic church. From 1893 to 1895 he was attorney-general of Mississippi and since 1912 has been first assistant attorney-general. He was a delegate from his State to the Democratic National Conventions of 1872 and 1876. In 1875 he brought about a conference which settled the Reconstruction difficulties in Mississippi. In 1889 he successfully advocated a State constitutional convention to consider the question of suffrage. Thereafter his most conspicuous public services were in connection with the abolishment of the convict-leasing system, in both State and counties. He was special judge of the Mississippi Supreme Court in many important cases. He is a member of the Mississippi Historical Society, in the publication of which he collaborated. He contributed to 'The Catholic Encyclopedia.'

JOHNSTON, Gabriel, American colonial governor of North Carolina: b. Scotland, 1699; d. 1752. Very little is known of his personal history. He was educated at the University of Saint Andrew's, with a view to the medical profession, which he seems not to have practised. He was for a while professor of Oriental languages at Saint Andrew's, and then removed to London, where he was engaged with Pulteney and Bolingbroke in writing for the *Craftsman*. By the influence of the Earl of Wilmington he was appointed governor of North Carolina, and took the oath of office at Brunswick, 2 Nov. 1734. He was the ablest and most successful of all the colonial governors, holding the reins of power up to the time of his death. Consult Ashe, 'History of North Carolina' (Vol. I, Chap. 19, Greensboro, N. C., 1908).

JOHNSTON, George Ben, American surgeon: b. Tazewell, Va., 25 July 1853; d. 20 Dec. 1916. He studied at the University of Virginia (1870–75) and took his degree (M.D.) at University Medical College, New York University (1876). He became professor of surgery at the Medical College of Virginia, surgeon at the Memorial Hospital, Richmond, at Johnston-Willis Sanatorium, and at Abingdon, Va., hospital. He acted as president of the American Surgical Association (1904–05) and of the Medical Society of Virginia (1897), also of the Southern Surgical and Gynecological Association (1887) and is an ex-president of Richmond Academy of Medicine and Surgery, etc. He was a frequent contributor to the surgical journals.

JOHNSTON, Sir Harry Hamilton, English traveler: b. London, 12 June 1858. He was educated at King's College, London, and the Royal Academy of Arts, traveled in North Africa, 1879–80, and Portuguese West Africa, and the Kongo region, 1882–83. He commanded a scientific expedition to Mount Kilimanjaro in 1884 and has held various consular posts in Africa. He has published 'Essays on the Tunisian Question' (1880–81); 'The River Kongo' (1884); 'Kilimanjaro' (1885); 'History of a Slave' (1889); 'Life of Livingstone' (1891); 'British Central Africa' (1897); 'History of the Colonization of Africa by Alien Races' (1899); 'The Uganda Protectorate' (1902); 'The Nile Quest' (1903); 'Liberia' (1906); 'The British Empire in Africa' (1910); 'Views and Reviews' (1912); 'Common Sense in Foreign Policy' (1913), etc.

JOHNSTON, Henry Phelps, American historical writer: b. 1842. He was graduated at Yale in 1862. He is professor of history in the College of the City of New York. He is a member New York and Connecticut Historic societies, American Antiquarian Society and New York Sons of the Revolution. He has published 'The Battle of Harlem Heights'; 'Observations on Judge Jones'; 'Loyalist History of the Revolution'; 'The Yorktown Campaign'; 'Biography of Nathan Hale' (2 editions); 'Campaign around New York and Brooklyn, 1776'; 'Storming of Stony Point, 1779'; 'Record of Connecticut Soldiers in the Revolution'; 'Correspondence and Public Papers of John Jay' (4 vols.); 'Yale in the Revolution,' etc.

JOHNSTON, James Steptoe, American Episcopal bishop: b. Church Hill, Miss., 9 June 1843. He was educated at the University of Virginia, served as 2d lieutenant in the Confederate cavalry during the Civil War, subsequently studied law and was admitted to the bar. After being admitted to the bar he took orders in the Episcopal Church in 1869 and after holding rectorships at Port Gibson, Miss., six years; Mount Sterling, Ky., four years; and Mobile, Ala., eight years became bishop of western Texas in January 1888. In May 1913 he retired from active service and turned over the administration of the diocese to his coadjutor, and is now

serving a small church and two missions in the mountains of West Texas.

JOHNSTON, John Humphreys, American artist: b. New York, 2 Nov. 1857. He studied art in New York as a pupil of La Farge, and in Paris under Lefebre and Doucet. He was awarded (1896) the Temple gold medal by the Pennsylvania Academy of Fine Arts and a silver medal at the Paris Exposition (1900) as well as the silver medal at Buffalo Exposition (1901); gold medal at Munich (1902); and silver medal at Saint Louis Exposition (1904). His works are to be found in the galleries of the Musée de Luxembourg, Paris, the Wilstach Trust Collection, Philadelphia, Carnegie Institute, Pittsburgh, etc. He is a Chevalier Legion d'Honneur (1901) and resides at Venice.

JOHNSTON, Joseph Eggleston, American soldier: b. Cherry Grove, Va., 3 Feb. 1807; d. Washington, D. C., 21 March 1891. He was graduated at West Point in 1829; and served with distinction in the Black Hawk and Seminole wars. In the Mexican War he distinguished himself also and was brevetted major and colonel United States army for bravery at Cerro Gordo. He was promoted quartermaster-general of the army with the rank of brigadier-general in June 1860, but resigned his commission when Virginia seceded. He was then made major-general of Virginia volunteers and later full general in the Confederate service, taking an active part in the first battle of Bull Run, 21 July 1861, where he personally led a charge with the colors of the 4th Alabama regiment in his hands. At the battle of Fair Oaks, 31 May 1862, Johnston was severely wounded and was disabled for service for several months. In November he again reported for duty and was assigned to the Military Department of Tennessee. In the operations of Grant before Vicksburg he did everything possible to prevent the shutting up of General Pemberton in Vicksburg, telegrahing him 2 May: "If Grant crosses, unite all your troops to beat him. Success will give back what was abandoned to win it." Although similar orders were repeatedly sent to Pemberton, they were disregarded; Pemberton allowed himself to be shut up in Vicksburg and the siege and surrender on 4 July followed. In December of the same year he took command of Bragg's army at Dalton, Ga., and by the spring of 1864 brought it to a state of efficiency which it had not previously had, though it contained only 45,000 men against Sherman's 98,797. The campaign from Dalton to Atlanta, a distance of 100 miles, was a series of severe engagements without a general battle, Johnston's friends claiming "the retreat had been the masterpiece of Johnston's life and one of the most skilful and successful that had ever been executed." On 17 July 1864 Johnston was superseded in this command by General Hood. In the early part of 1865 he was several times defeated by Sherman, to whom he surrendered at Durham Station, N. C., on 26 April, the terms of capitulation resembling those granted to Lee at Appomattox. After the war Johnston engaged in business, and was member of Congress 1876–78. He was a pallbearer at the funerals of Grant and Sherman. He was United States Commissioner of Railways 1885–89 and the author of 'A Narrative of Military Operations During the Late War' (1874). Consult **Hughes,** 'General Johnston' (New York 1893).

JOHNSTON, Mary, American novelist: b. Buchanan, Botetourt County, Va., 21 Nov. 1870. In 1898 she became suddenly famous through her 'Prisoners of Hope: a Tale of Colonial Virginia,' and her next book, 'To Have and to Hold' (1900), was even more popular. She has since published 'Audrey' (1902); 'Sir Mortimer' (1904); 'The Goddess of Reason' (1907); 'Louis Rand' (1908); 'The Long Roll' (1911); 'Cease Firing' (1912); 'Hagar' (1913); 'The Witch' (1914); 'The Fortunes of Garin' (1915); 'Foes' (1918). 'Audrey' and 'Sir Mortimer' were dramatized.

JOHNSTON, Richard Malcolm, American author: b. Powelton, Ga., 8 March 1822; d., Baltimore, Md., 23 Sept. 1898. He was graduated at Mercer University in 1841; was admitted to the bar in 1843; and began practice in Sparta, Ga., the same year. He was professor of literature in the University of Georgia in 1857–61 and served as colonel in the Confederate service during the Civil War. At its close he established a boys' boarding school at Sparta, which he removed in 1867 to Baltimore and of which he was the head for many years. His publications include 'Historical Sketch of English Literature'; 'Life of Alexander H. Stephens' (1883); 'Dukesborough Tales' (1883); 'Old Mark Langston'; 'Ogeechee Cross Firings' (1889); 'Mr. Absalom Billingslea and Other Georgia Folk' (1887); 'Studies Literary and Social' (1891–92); 'The Primes and Their Neighbors'; 'Mr. Billy Downs and His Likes.' The usual theme of his longer as well as his shorter fictions is the life of the middle class Georgian in the ante-bellum period.

JOHNSTON, Robert Matteson, American historian: b. Paris, France, 11 April 1867. He studied in France, England and Germany, graduating (M.A.) at Cambridge University (1889) and becoming barrister-at-law of the Inner Temple, London. He was lecturer on history at Harvard and Mount Holyoke colleges (1904) and professor of history at Harvard since 1908 and professor of history at Bryn Mawr College (1907–08). He wrote 'The Roman Theocracy and the Republic, 1846–49' (1901); 'Napoleon; a short biography' (1904); 'The Napoleonic Empire in Southern Italy and the Rise of the Secret Societies' (1904); 'Memoirs of Malakoff' (1907); 'American Soldiers' (1907); 'French Revolution' (1909); 'The Corsican' (1910); 'The Holy Christian Church' (1912); 'Mémoire de Marie Caroline, reine de Naples' (1912); 'Bull Run' (1913); 'Arms and the Race' (1915). He is editor of *The Military Historian and Economist.*

JOHNSTON, Samuel, American lawyer and statesman, nephew of Gabriel Johnston (q.v.): b. Dundee, Scotland, 15 Dec. 1733; d. near Edenton, N. C., 18 Aug. 1816. His father, John, came to North Carolina in 1736, became surveyor-general and acquired large landed estates. The son chose the profession of the law, and was clerk of the Superior Court in Chowan County for five years from 1767, and served there also as naval officer under the Crown. Elected to the assembly in 1769 from the first he espoused the popular side, and in

1773 the assembly placed him on its standing committee of inquiry and correspondence, the organ by which it sought to co-operate with the other provinces. This was the first decisive step toward revolution taken by the legislature of North Carolina. He was an active member of the first two provincial congresses in this province. The 3d and 4th met at his summons, and he presided over the deliberations of both. In the 3d, August 1775, the political organization of the province was decided on and the supreme executive authority was entrusted to a provincial council, of which he was made the chairman, and so virtually the governor of the province. In September 1775 he was chosen treasurer for the northern district of North Carolina. In 1781–82 he was a member of the Continental Congress. In 1787 he was elected governor of the State, and in 1788 presided over the convention which rejected the Federal Constitution, which, however, he supported with all his influence. He was United States senator 1789–93 and judge of the Superior Court 1800–03.

JOHNSTON, William Dawson, American librarian: b. Essex Center, Vt., 11 June 1871. He was graduated (1893) at Brown University, studied (1893–94) at the University of Chicago and took the degree A.M. at Harvard (1897–98). He was instructor of history (1894–97) at the University of Michigan and (1899–1900) at Brown University. He was assistant (1900–07) at the Library of Congress, lecturer on bibliography (1905–07) at Simmons College. He served as librarian (1907–09) at the Bureau of Education, Washington, at Columbia University (1909–14), Saint Paul Public Library, since 1914. He has written 'History of the Library of Congress' (1904), and 'Special Collections in Libraries in the United States' (1912), besides contributing numerous articles to the library journals.

JOHNSTON, William Preston, American educator: b. Louisville, Ky., 5 Jan. 1831; d. Lexington, Va., 16 July 1899. He was a son of A. S. Johnston (q.v.) and was graduated at Yale in 1852 and from the Louisville Law School in 1853. He served as colonel and aide-de-camp to Jefferson Davis in the Confederate army during the Civil War, and soon after its close became professor of history and literature at the Washington and Lee University, remaining there till 1877. In 1880 he became president of the Louisiana State University, and after its union with Tulane University, New Orleans, in 1884, was president of that institution till his death. His publications include 'Life of General Albert Sidney Johnston' (1877); 'The Johnstons of Salisbury' and 'The Prototype of Hamlet' (1890).

JOHNSTONE, Scotland, police burgh and manufacturing town in Renfrewshire, on the Black Cart, three and one-half miles west by south of Paisley and 11 miles west of Glasgow by the Glasgow and Southern Railway. This busy little city's chief industries are flax-spinning, thread manufacturing, paper-making, brass and iron founding. It has coal mines and works in the vicinity. Elderslie, said to be the birthplace of Sir William Wallace, is but one mile to the east. Pop. 12,000.

JOHNSTOWN, N. Y., city and county-seat of Fulton County, on Cayadutta Creek, and on the Fonda, J. & G. Railroad, 44 miles northwest of Albany. In 1771, a few years after its settlement, it was named after its founder, Sir William Johnson, whose mansion, built here 10 years earlier, still stands almost as it was left by him. In 1808 Johnstown was incorporated as a village, and in 1895 it received a city charter. The courthouse and jail, built by Sir William Johnson in 1772, occupy with Johnson Hall an interesting place in local history. The city has a public library building which was the gift of Andrew Carnegie. The industries of Johnstown include a variety of important manufactures, chief among which are those of gloves and mittens, knit goods of different kinds, leather, gelatin, lumber, grist-mill and machine-shop products, etc. The city has an active Chamber of Commerce. The municipal government is well supported by public spirit, and the city's affairs are efficiently managed. The people elect the water board and the school board, and the waterworks are owned and operated by the city. Pop. 10,875.

JOHNSTOWN, Pa., city, Cambria County, on the Conemaugh River and on the Baltimore and Ohio and the Pennsylvania railroads, about 80 miles east of Pittsburgh. The Little Conemaugh River and Stony Creek unite at Johnstown and form the Conemaugh River. The area of the city is about five square miles, and the valley in which it is located ranges from 1,148 feet to 1,600 feet above sea-level. Johnstown was settled in 1794, was incorporated as a borough in 1831 and as a city in 1889. Its situation, in a coal and iron ore region, combined with its great water power, has made it an important manufacturing centre. Fire-clay and limestone are also found in the vicinity. Some of its industrial establishments are the Cambria Steel Company works, where about 16,000 men are employed, the Lorain Steel Company, iron and steel works, iron-plate mills, street-car rail factory, silk mill, planing-mills, cement works, furniture factories, potteries, breweries, brick-yards, machine-shops, foundries, furnaces, wire works, leather and woolen goods. Some of the noted public buildings are the Cambria Free Library, a new $250,000 Y. M. C. A., the Conemaugh Valley Memorial Hospital, 67 churches, the city hall and the high school. The number and arrangement of the parks add to the beauty of the place.

In Grand View Cemetery are the graves of 777 unidentified dead who perished in the "Johnstown Flood." This disastrous flood occurred on 31 May 1889, and was the result of the destruction of a dam across South Fork, a small branch of the Conemaugh River. Heavy rains had fallen and the mountain streams of the vicinity had become roaring torrents. The dam kept back the waters of Conemaugh Lake, about two and one-half miles long, one and one-half miles wide and averaging over 50 feet in depth; in some places the water of the lake was 100 feet in depth. The direct distance from the city was about 12 miles, but along the river the distance was five or six miles longer. In a very short time after the dam had burst the valley was flooded and Johnstown and several small villages were under water. The loss of lives was 2,205 and the loss of property was estimated to be about $10,000,000. Aid for the sufferers came from all parts of the country

and the city was soon rebuilt and its industries re-established. Pop. 66,579.

JOIGNEAUX, zhwā-nyō, **Pierre,** French agronomist and journalist: b. Ruffey-lés-Beaune, 23 Dec. 1815; d. Bois-Colombes, 25 Jan. 1892. He was educated at École Centrale, Paris, but soon went into militant politics and was sentenced (1838) to four year's imprisonment for participation in the secretly published *L'Homme Libre* paper. In 1848 he was elected by his department member of the Constituent Assembly, then to the Legislative Assembly. He issued the *Feuille du Village* (1849–51), an organ of republican propaganda, which had great success. He was expelled in consequence of the *coup d'état,* returning to France in 1859 by favor of the general amnesty, and devoted his time to the subject of agriculture. He failed of election for Côte-d'Or and La Sarthe (1869), but was sent (1871) to the National Assembly for Côte-d'Or, which constituency he served till the elections of 1889 when he refused the candidacy. Shortly afterward, at a by-election, he was made senator. During these sessions he sat on the benches of the Extreme Left and occupied himself chiefly on agricultural matters. He wrote numerous books and pamphlets to popularize the knowledge of agriculture. Among his works are 'Dictionnaire d'agriculture pratique' (Paris 1855), in collaboration with Dr. Moreau; 'Le Livre de la Ferme' (ib. 1861–64), with several assistants. Just previous to his death he published 'Souvenirs historiques' (ib. 1891). The Versailles School of Agriculture had a bust made in his memory.

JOINERY, the industry and art of joining wood, stone or metal work by sawing, planing, cross-cutting, etc., connecting by means of glue, framing, nails, cement or bolts, and fitting the construction for the internal and external furnishings of buildings, ships and for various articles of furniture, etc. In woodwork, grooving, tonguing, mitering, mortising, molding and beading, wedge-cutting, boring, etc., are performed by means of a power-tool with different attachments called the joiner; the joiner's gauge is a scribing tool used to make a mark on a board parallel to its edge, while the facing and matching of boards is accomplished by means of a long bench plane called the joiner's plane. In carpentry and joinery, in architectural stone and structural steel work, the mold or the place where one piece of timber, stone or steel is connected with another is called the joint. See BUILDING; CABINETMAKING; CARPENTRY; BRIDGE CONSTRUCTION; STEEL CONSTRUCTION.

JOINT, in anatomy, an articulation or connection between bones. Many of the immovable joints are so close in their union that the two bones practically become one, as in the dovetailed sutures of the skull. In the make-up of a movable joint there are the two bones, and covering the surface of each a layer of tissue of rubbery consistency called cartilage; binding the bones together are firm inelastic bands of tissue called ligaments. Over the surface of the cartilage and the inner surfaces of the ligaments there is a thin, smooth layer of tissue, the synovial membrane, which is kept constantly moist with an oily fluid to prevent friction. Joints are classified according to the variety of motions they allow: the freest is the ball-and-socket joint, as seen in the hip and shoulder.

Diseases of Joints.— Joint-diseases are distinguished by names that indicate the principal structure involved and the causes of disease. Where the cause is a specific disorder, as tuberculosis, rheumatism, syphilis or gonorrhœa, the name of that particular malady is given to the inflammation. The only structure of a joint that is apt to be involved alone is the synovial membrane, and inflammation of this structure is called synovitis. Inflammation of all the joint-structures is called arthritis, and where the bone is the primary seat of the trouble, or is principally involved, the name osteo-arthritis is used.

Synovitis.— This condition results from injuries (sprains, bruises and wounds), from overuse, acting as an injury, and from poisons circulating in the blood. The joint is painful, moves with greater pain and may be red outside. Blood-serum is poured out and the synovial sac is distended. (This condition constitutes "water on the knee"). The general symptoms and severity depend on the cause of the trouble. Absolute rest of the joint and pressure by a snug bandage hasten recovery. When such injuries are repeated, or when the inflammation is slight but persistent, painting with iodine tincture may be of value. When the condition of inflammation reaches the suppurative stage all the structures of the joint are involved and the condition is considered under the term "arthritis."

Arthritis (non-specific).— This is due to the extension of disease of contiguous bone, or it may result from wounds or in the course of various diseases. The joint becomes swollen, red, very painful and the general symptoms are severe. When the poison is sufficiently virulent, suppurative arthritis results and the pus collects in the synovial sac. (See INFLAMMATION). In this condition the joint becomes "boggy," and the poisoning of the entire system is so severe as to warrant the most radical measures for relief. Opening the joint and allowing the escape of the pus, with thorough cleansing, may be sufficient, or the limb may have to be sacrificed. See ARTHRITIS; ARTHRITIS DEFORMANS; GOUT; RHEUMATISM; SYPHILIS.

Knock-knee.— This is a deformity of the legs, consisting in the angular projection of the knee inward, and is sometimes called in-knee. It arises in children learning to walk who are affected with rickets (q.v.). The deformity is due to the faulty growth of the bones which enter into the joint. In early life, correction of it may be secured by splints and braces; but when the bones become less pliable, the femur, the tibia, or both, may have to be severed by chiseling and the bones held in the normal line by plaster casts until union has taken place.

Charcot's Disease.— The peculiar form of arthritis thus named occurs in the course of locomotor ataxia, the knee-joint usually being the one affected. The joint swells painlessly, the structures are worn away and the function of the joint is lost.

Sprains.— These are wrenches resulting in more or less stretching or laceration of ligaments, hemorrhage in and around the joint and sometimes the displacement of tendons. The part usually swells at once and movement causes severe pain. This injury may closely re-

semble a joint-fracture. Absolute rest of the joint must be insisted upon, as synovitis may follow. Alternating hot and cold applications, if started early, lessen the damage. The joint should then be snugly bandaged and kept so until swelling and tenderness disappear.

Wounds of Joints.— Injuries of this nature may cause damage directly to the structures or by infecting the joint and producing arthritis. Penetration into the synovial sac is indicated by an escape of the viscid fluid.

Floating Cartilages.— These are rarely seen except in the knee-joint, where they are ordinarily due to a small portion of cartilage being bitten off between the bones; this piece then floats around in the synovial sac and causes trouble when the bones lock together on it. When this occurs, the patient falls to the ground because of the severe pain. The synovial membrane is injured and is apt to be mildly inflamed. These bodies may sometimes be felt through the skin and can be held, by holding the joint in the same position, until an opening is made; but ordinarily when the attacks become so frequent as to be unbearable the joint has to be opened and searched.

JOINT-SNAKE. See GLASS-SNAKE.

JOINT STOCK BANKS. See BANKS AND BANKING — WORLD'S SYSTEMS.

JOINT STOCK COMPANY, or ASSOCIATION. The usual definition in law of this term is that a joint stock company is an association of individuals for the purposes of profit, possessing a common capital, being divided into shares, of which each member possesses one or more, and which are transferable by the owner. It is distinguished from ordinary partnerships in that the death or withdrawal of an ordinary partner brings a dissolution of the firm, whereas in the case of joint stock companies death or withdrawal of interest does not involve dissolution. The members of a joint stock company, contrary legislation absent, are liable for all debts of the association the same as partnership members, and a similarity exists respecting other essential features. The joint stock company is distinguished from a corporation inasmuch as in the latter case its shareholders are liable for the debts of the company only to the extent of the share of the capital stock actually contributed by them, whereas members of a joint stock company are liable to contribute to the debts of the company. With these exceptions both forms of association are similar. Statutory enactments in England and the United States have been passed regulating their government. In England the Companies Act of 1862 provides "any seven or more persons associated for any lawful purpose may, by subscribing their names to a memorandum of association, and otherwise complying with the requisitions of the act in respect to registration, form an incorporated company, with or without limited liability." In cases where the intention of the company is that its members shall be subject only to limited liability the word "Limited" has to be stated in the company's title. Joint stock companies have been formed in large numbers under this law and have become one of the most important forms of commercial exploitation in England. In the United States statutes have been passed regulating the organization, government and management of joint stock companies, fixing the minimum number of members, authorizing the companies to sue or be sued in their own name, providing for the methods of management and establishing the extent of the liability of the members. The usual requirements mentioned in these statutes are that they record articles of association together with names of the members, amount of capital, name of company and character and location of the business. In general it may be asserted that at least one meeting of the members each year is provided by law or the articles of the association, timely notice being given the members as to time and place of said annual meeting. At this annual meeting the stockholders elect their officers by vote. A statute securing to minority stockholders in corporations the power of electing a representative in the board of directors does not apply to joint stock associations unless so incorporated in its articles. Contracts with joint stock associations can be made only with the officers or managers as stated in the associations' articles or as contained in the statute. As a joint stock company has the character and power, substantially, of a corporation, it may be served with process in a foreign jurisdiction. All the members, statutory regulation being absent, are parties to an action either by or against a joint stock association. While suit against members or officers individually is not valid, statutes generally provide that suits may be instituted in the name of a designated officer, as the president or treasurer of the company. But if judgment is properly rendered against a president as such, it does not bind his individual property. Dissolution is usually by consent of the members mutually, but the consent must be unanimous if the association is formed for a special period. Joint stock companies have not gained such popularity here as in England, the laws of corporations being less drastic in the United States than in England. Consult Birdseye, 'New York Statutes,' article "Joint Stock Associations" (New York 1901); Hurrell and Hyde, 'Law of Joint Stock Companies' (London 1898); Lindley, 'The Law of Companies' (ib. 1889); Scott, 'The Constitution and Finance of English, Scottish and Irish Joint Stock Companies to 1720, Vols. I–III' (Cambridge 1910–12); Lomnitz, H., 'Die Systematische Beurbeiting der Veröffentlichungen von aktiengesellschaften' (Leipzig 1908). See CORPORATIONS, HISTORY; CORPORATIONS, LEGAL.

JOINT TENANTS, persons who hold or own lands jointly, by title created expressly by one and the same deed or will. It has been uniformly held by the courts that a unity of possession derived by several and distinct conveyances does not constitute a joint tenancy, but rather a tenancy in common. Joint tenants must have the same interest, derived from the same conveyance, commencing at one and the same time, and held by a united possession. The duration of the estates must be alike in both, and also the interest. Should one hold under the conveyance for a term of years, and the other for life, the possession even for a term of years would not be a joint tenancy. The estate must vest in each tenant at the same time. In the case of a will which gives one an

interest to commence at a day named and another an interest to commence a year later, no joint tenancy is created thereby. Should one receive an interest absolute and another an interest for life, the relation of joint tenants would not be created. The doctrine of survivorship is the distinguishing incident of title by joint tenancy. In the event of the death of one of the joint tenants, the survivor is entitled to the whole property, and the full title immediately vests in him. This is not an incident of tenancy in common. Many of the States of the Union have abolished title by survivorship in joint tenancy by constitutional provisions or by express statute enactments. In other States acts have been passed abrogating the distinction between joint tenants and tenants in common; and inheritance by survivorship not being an incident of tenancy in common, such acts are construed by the courts as abolishing such inheritance. Such acts do not apply to existing joint tenancies, but only to such as may be created after the enactment. Consult Kent, J., 'Commentary on American Law' (14th ed., 4 vols., Boston 1896); Blackstone, W., 'Commentaries' (4th ed., 2 vols., Chicago 1899).

JOINT-WORM. See CHALCIS; WHEAT INSECT-PESTS.

JOINTS, breaks or fractures in the rocks of the earth's crust, dividing them into larger or smaller blocks. They differ from faults (q.v.) only in that the latter have undergone relative slipping of one wall past the other. Joints may be produced either by tension or compression. Columnar jointing (q.v.) in basalts is a good illustration of the former. The latter usually occurs in regions of folding. Joints when very small and closely spaced produce fracture cleavage (q.v.) in rocks. When a large number of joints are parallel they form a joint system. In sedimentary rocks two prominent systems often occur nearly at right angles to each other causing the rock to break in nearly rectangular blocks. When joints become filled with mineral matter they form veins (q.v.). Jointing aids in ground water circulation, particularly in non-porous rocks like granite. It is also an aid in quarrying, unless the joints are too closely spaced, in which case they destroy the value of the rock.

JOINTURE, join'tūr, a settlement of lands and tenements made to a woman in consideration of marriage, as a substitute for dower. Originally it was a joint estate limited to both husband and wife as a joint tenancy and subjected to survivorship. The wife takes nothing under the settlement until after the death of the husband, unless special provisions are incorporated, which in reality modifies the effect of a regular jointure. In some settlements, denominated jointures, provisions are inserted to the effect that they are not to exclude enjoyment of dower; but such provisions are an innovation upon the established province of jointures. A good jointure must provide that it shall take effect, in possession and profit, immediately after the death of the husband; that it shall be for the life of the wife herself, and cannot be left in trust for her use and benefit. It should be provided that it is in settlement of all dower interest, in order to maintain its distinctive features of jointure. The settlement must be executed before marriage, as marriage constitutes the entire consideration for the jointure. Such an instrument properly executed before marriage is binding on the wife and a complete bar to dower in any dowable lands owned or conveyed by the husband during the marital relations. Without the intervention and assistance of legislative action, no other form of agreement is effectual to bar dower. It sometimes happens that the wife is deprived of her jointure by lawful acts to which she is not a party, as by the lands being taken for public purposes, or in some other manner equally legitimate. In such a case the settlement does not bar her claim against the husband's estate to the extent to which she is deprived of her jointure.

JOINVILLE, zhwăñ'vĕl', **François Ferdinand Philippe Louis Marie d'Orléans,** PRINCE DE, third son of Louis Philippe: b. Neuilly, 14 Aug. 1818; d. Paris, 16 June 1900. He entered the naval school at Brest and was made lieutenant in 1836. He distinguished himself (1838) outside Vera Cruz when the war was declared against Mexico. In 1843 he married Princess Francesca of Braganza, sister of Don Pedro II, and he was created vice-admiral in 1845, sitting meanwhile in the Chamber of Peers. The Revolution of 1848 forced his exile to England, leaving, in 1861, for the United States accompanied by his son, the Duc de Penthièvre, and his nephews, the Comte de Paris and the Duc de Chartres. They entered the service under General McClellan. In 1870 he was again in France and, as Colonel Lotherod, was actively present in the 15th Corps before Orléans. He was arrested under instructions of Gambetta and interned five days at the prefecture of Mans and then returned to exile in England. At the 1871 elections he was chosen as representative of both La Manche and Haute-Marne and took the latter seat in the assembly. He retired from politics, but (1886) had to return to exile when the law again banished the royal families. Returning to France in 1895 he died there. He wrote numerous articles on history and the navy which appeared in the *Revue de Deux Mondes* signed as manager or director of that publication; they have since been published in collective form under the title 'Essais sur la marine française: L'escadre de la Méditerranée' (Paris 1853), and 'Études sur la marine et récits de guerre.' His 'La guerre d'Amérique, compagne du Potomac' had its second edition in 1872. In 1894 he published some of his interesting memories of the year 1848 in 'Vieux souvenirs, 1818–1848.'

JOINVILLE, zhwăn-vĕl, **Jean,** SIRE DE, French historian: b. Champagne, 1224; d. 24 Dec. 1317. He early entered the service of Thibaut, king of Navarre, and in 1248 raised a troop of 9 knights and 700 armed soldiers, and accompanied Louis IX in his first crusade to the Holy Land. He rose high in favor with Louis, shared his captivity, returned with him to France in 1254 and spent much of his time at court. In 1283 he became governor of Champagne during the minority of Jeanne de Navarre. In 1315 he volunteered to accompany Louis X in his expedition against Flanders. His 'Histoire de Saint Louis,' is one of the most valuable specimens of early French prose. It consists of an elaboration of scattered notes

taken during his military expeditions, combined with hearsay and tradition. It gives a lavish account of King Louis, relating his heroic deeds and his many meritorious qualities. His papers of chancellery are annotated with various remarks of historical interest. The 'Histoire' has survived in three manuscripts, first edited in 1546. The best edition with a translation into later French is by N. de Wailly in 'Société de l'histoire de France' (4 vols., 1874). In addition to this work, Joinville is also credited with a 'Credo' first reproduced in facsimile in 'Mélanges de la Société des bibliophiles français' (1837). His chancellery reports are edited in 'Bibliothéque de l'École des Chartes' (1867).

JOKAI, yō'kā-ĭ, **Maurus,** Hungarian novelist: b. Komorn, 19 Feb. 1825; d. Budapest, 5 May 1904. In 1846 he received his advocate's diploma, but never practised, and from a very early age devoted himself to literary work. In 1842 he produced a drama, 'The Jew Boy,' in 1846 his first novel, 'Work-days,' was published, and in 1847 he issued a collection of stories entitled 'Flowers of the Desert.' He served the cause of Hungarian independence in the revolutionary movement of 1848, and after its failure was a political suspect and that during the period of his greatest literary productivity. His 'Revolution and Battle Pictures' appeared in 1849, and after that he devoted himself with extraordinary energy to journalistic and literary work, producing in all more than 300 volumes. He was a member of the Hungarian Parliament and the recognized leader of the Liberal opposition after the restoration of the constitution, and in 1897 was appointed a life member of the House of Magnates. He was a successful newspaper editor continuously from 1858 till his death, his last paper being the *Nemzet* (Nation). He is best known by his numerous romances and novels. Among the latter are 'Transylvania's Golden Age' (1851); 'The Man with Two Horns' (1852); 'The Turks in Hungary' (1852); 'A Hungarian Nabob' (1854); 'Kárpáthy Zoltan' (1855); 'Political Fashions' (1861); 'The New Landlord' (1862); 'The New Landlord' (1865); 'The Romance of the Next Century' (1874); 'Our Days' (1881); 'The Man of Gold or A Modern Midas' (1886); 'There is no Devil' (1891); 'Dr. Dumany's Wife' (Eng. trans. 1891); 'In Love With the Czarina' (Eng. trans. 1894); 'The Nameless Castle' (Eng. trans. 1891); 'The Green Book' (Eng. trans. 1897); 'The Lion of Janina' (Eng. trans. 1897); 'The Poor Plutocrats' (Eng. trans. 1899); 'Debts of Honor' (Eng. trans. 1900); 'The Baron's Son' (Eng. trans. 1900); 'The Day of Wrath' (Eng. trans. 1900). His best plays are 'King Kolomon' (1855); 'Manlius Sinister' (1856); 'Georg Dózsa' (1858); 'The Martyrs of Szigetvár' (1859), and 'Milton' (1878). His 'Political Poems' appeared in 1880. Consult Nevai, 'M. Jokai' (1894), and Temperley, 'Maurus Jokai and the Historical Novel,' in the 'Contemporary Review,' July 1904. See MAN OF GOLD, A.

JOKJAKARTA, or **DJOCJAKARTA,** Java, Dutch resident town, on the island near the south coast. It is connected by railway with the harbor of Tlelatjap and with Batavia, Surakarta and Samarang. It is the residence of a native prince as well as of the Dutch resident and is quite powerfully garrisoned. There are great temple ruins in the vicinity. Pop. about 80,000.

JOLIET, Charles, French journalist: b. Saint Hippolyte-sur-le-Doubs, Doubs, 1832; d. 1910. He received his education at the College of Chartres and the Versailles Lyceum. He secured a place in the civil service in 1854, meanwhile writing occasionally for the newspapers. He published 'L'Esprit de Diderot' in 1859. After 1864 he devoted himself exclusively to journalistic and literary pursuits. His 'Le roman de deux jeunes mariés' (1866) and 'Mademoiselle Chérubin' (1870) were very successful and he became well known during the Franco-Prussian War of 1870, through his narration of incidents connected with the campaign. Other works are 'Les romans patriotiques' (1871); 'Le train des maris' (1872); 'Trois uhlans' (1872); 'La foire aux chagrins' (1873); 'Carmagnol' (1876); 'La vipère' (1880); 'Le crime du pont de Chatou' (1882); 'Le médecin des dames' (1885); Violette' (1890); 'Nouveaux jeux d'esprit' (1892).

JOLIET, Louis, American explorer: b. Quebec, 21 Sept. 1645; d. Canada, May 1700. He was educated at the Jesuit College of Quebec, and subsequently engaged in the fur trade on the western frontier, thereby becoming familiar with the missionaries and tribes. He was selected by the governor Frontenac to ascertain the direction and mouth of the Mississippi, a few of whose affluents had already been visited by missionaries and traders. Starting with his companion, the illustrious Father Marquette (q.v.), and five other Frenchman, from Green Bay in June 1673, he ascended the Fox River, and descended the Wisconsin to its confluence with the Mississippi, down which they sailed as far as the country of the Chickasaws, below the entrance of the Arkansas. Having ascertained with tolerable accuracy the general course of the stream, they returned to Green Bay, by the way of Illinois River, Chicago and Lake Michigan, whence Joliet started alone for Quebec. The whole route traveled by them is estimated at 2,500 miles. He lost his journal and other papers in the rapids above Montreal, but wrote out from recollection a few pages of manuscript, which agree with the narrative of Marquette. In the same manner he prepared a map of the region explored. The French government inadequately rewarded him for his services with the Island of Anticosti at the mouth of the Saint Lawrence, where he built a house and fort for his family, intending to embark in trade. He appears, however, to have been subsequently employed in the West. In 1691 his island was captured by a British fleet and his property destroyed. In 1697 the seignory of Joliet, Canada, was assigned to him. Joliet, the capital of Will County, Ill, is named after him. Consult Parkman, 'La Salle or the Discovery of the Great West' (1869); Winsor, 'Narrative and Critical History of America' (1884-87); Gagnon, 'Louis Jolliet' (Quebec 1902).

JOLIET, Ill., city, county-seat of Will County, on the DesPlaines River, and Lakes to Gulf Deep Waterway; also, on the Chicago, Rock Island and Pacific, the Michigan Central,

the Atchison, Topeka and Santa Fe, the Elgin, Joliet and Eastern, the Lake Shore and Elgin and the Chicago and Alton railroads, 40 miles southwest of Chicago. The first permanent settlement was made in 1831 and the city was chartered in 1859. The place was named in honor of Louis Joliet, a French navigator and one of the party who with Marquette visited this place in 1673. The city is situated in a rich agricultural region, and large limestone quarries are in the vicinity. Its chief manufacturing establishments are the American Steel and Wire and the Illinois Steel Company Mills, Coal Products Company, chemicals, matches, art calendars, cartons, oil and gasoline tractors, automobiles and auto accessories, machine shops, agricultural implement works, foundry and furnace products and breweries. Some of the public institutions are the State penitentiary, Silver Cross and Saint Joseph's hospitals, Saint Francis Academy and a public library which contains 45,000 volumes. The Illinois Steel Company Athenæum, a clubhouse for workingmen, is a fine institution. There is a fine Country Club and a flourishing Association of Commerce. The city has commission form of government and owns and operates the waterworks. The Chicago Sanitary District Power Plant supplies Chicago with light and power. The power plant of the Public Service Company of Northern Illinois is located here. Pop. city and township, 60,000.

JOLIETTE, or **INDUSTRY VILLAGE,** Canada, town and county-seat of Joliette County, Quebec, on the L'Assomption River, on the Canadian Pacific and Canadian Northern railways, 36 miles northeast of Montreal. It is an important market town, has fine water power and has a good trade in lumber and farm products. It has large foundries, saw, paper and grist mills, and manufactories of woolen goods, biscuit, agricultural implements, carriages and tobacco and cigars. Limestone for building is quarried in the vicinity. The municipality controls the waterworks and electric light. Pop. 6,346.

JOLIN, Johan Kristofer, Swedish dramatist: b. Stockholm, 1818; d. 1884. He was engaged as actor at the Stockholm Theatre in 1845–68 and for part of that time also served as reader and director of the dramatic school. He wrote a number of clever, witty plays, and some novels and sketches. His plays, are 'Mäster Smith' (1847); 'Barnhusbarnen' (1849); 'Mjölnarfröken' (1865); 'En man af verld och en man af värde' (1846); 'Min hustru vill ha roligt' (1868) and 'Smålands-Petter' (1883). Jolin's complete works have been issued (15 vols., 1872–88).

JOLINE, Adrian Hoffman, American lawyer: b. Ossining, N. Y., 30 June 1850; d. 15 Oct. 1912. In 1870 he was graduated at Princeton University and in 1872 was graduated in law at Columbia University and was admitted to the bar in the same year. At the time of his death he was senior member of the firm of Joline, Larkin and Rathbone. He acquired vast transportation interests; was president of the Missouri, Kansas and Texas Railroad and also the Texas company of the same name from 1906 to 1909; was director of the Albany and Susquehanna Railroad Company, the American and Foreign Insurance Company, the National Surety Company, the United Traction and Electric Company and the Chatham and Phœnix National Bank. After 1907 he acted as receiver of the Metropolitan Street Railway Company of New York. Mr. Joline was an expert on railroad legislation and corporation law in general. In 1912 he received a letter from Gov. Woodrow Wilson of New Jersey in which the latter expressed a desire for the elimination of Mr. W. J. Bryan from the political arena. The publication of the letter just previous to the presidential campaign caused a great stir among leaders of the Democratic party and for a time a rupture seemed imminent. Mr. Joline was a great booklover and collector of rare works. He wrote 'Meditations of an Autograph Collector' (1902); 'Diversions of a Book Lover' (1903); 'At the Library Table' (1910); 'Edgehill Essays' (1911); 'Rambles in Autograph Land' (1913).

JOLLY, Julius, German philologist: b. Heidelberg, 1849. He was educated at the universities of Munich, Berlin and Leipzig. In 1872 he was appointed docent and in 1877 professor of Sanskrit and comparative philology at the University of Würzburg. In 1882–83 he traveled in India. Professor Jolly is a recognized authority on Hindu jurisprudence. His works include 'Ein Kapital vergleichender Syntax' (1872); 'Geschichte des Infinitivs im Indogermanischen' (1873); 'Naradiya Dharmasastra' (1876); 'The Institutes of Vishnu' (1880); 'Tagore Law Lectures' (1885); 'A History of the Hindu Law of Partition, Inheritance and Adoption' (1885); 'Manutikasangraha' (1885–90); 'Institutes of Naradasmriti' (1885–86); 'Manava Dharmasastra' (1887); 'Minor Law Books' (1889); 'Recht und Sitte' (1896) and 'Indische Medezin' (1901) in 'Grundriss der Indoarischen Philologie.' He also wrote a life of Georg Bühler (1899).

JOLLY BALANCE, a spring balance devised by Prof. Philipp von Jolly, of the University of Munich, for determining the specific gravities of small objects. In its usual form it consists essentially of a long spiral spring of fine wire, to the lower end of which two pans are attached, one above the other. The lower pan is kept immersed in water, while the upper one remains in the air. The object whose specific gravity is to be determined is placed in the upper pan first, and the extension of the spring due to the weight of the object in the air is noted. The specimen is then transferred to the lower pan (where it will be under water), and the extension of the spring under these new conditions is also noted. The specific gravity of the specimen is then obtained by dividing the extension of the spring when the object is in the air by the difference between the two extensions as observed for air and water, respectively. The extension of the spring is observed by means of a graduated scale engraved upon a mirror that is placed back of the spring, and parallel to it. In taking a reading, the eye is brought into such a position that the image of the pupil is seen in the mirror directly behind the image of the pointer at the lower end of the spring. In this way errors of parallax are avoided in the readings. The Jolly balance is chiefly used for the rapid determination of the specific gravities of minerals and

similar objects, where great precision is not essential.

JOLLY BEGGARS, The. 'The Jolly Beggars' is one of many instances of Burns' range of gifts and interests. He had always had a taste, he says in a letter, for the company of blackguards, though he had no ambition to become one. The poem is called a cantata; and is, indeed, an opera of beggary, with the scene laid in Poosie Nansie's hedge alehouse; and the characters, all noisy vagrants from roaming the world, rising one after another, with short introductions of them in recitativo, to sing of their braveries and loves, lusts, debaucheries, of the highways, the hedges, of old days and soldier boys and youth. The whole piece is done in the manner of Jan Steen and Ostade among the painters; and in literature of the folk ballads, of Swift, Rabelais, Fielding, Shakespeare's Falstaff.

The frequent tendencies in the last four decades, especially on the Continent, to something of the broad realism of earlier periods, help clear the way for 'The Jolly Beggars' of the apologetic types of criticism from which it has often suffered, and make possible a more honest and direct approach. The chief excellence of the work lies in its power of minstrelsy, which here takes the direction of coarse, carousing, bludgeoning humor, genuine balladry of the highway people: one of the best pieces in English of gênre, kept perfectly to one key.

'The Jolly Beggars' was written in 1785, after a visit to an alehouse where a party of vagrants were carousing; but out of consideration for his public's sense of propriety, Burns excluded it from his published work. So that the poem was first printed, though only in part, in 1799, from a manuscript given to friends. In 1801 another manuscript was added to the first, making the poem complete as it now stands.

STARK YOUNG.

JOLY, Henri, on'rē zhō'lē', French philosopher: b. Auxerre, 1839. He was educated at the Ecole Normale Supérieure; became a teacher at Douai, where he remained until 1871, removing that year in a similar capacity to Dijon and being made dean in 1878. He was assistant at the Sorbonne in 1881–83 and spent one year at the Collège de France in 1886–87. He was elected to the Academy of Moral and Political Sciences in 1903. He published 'Elements de morale' (1880); 'Psychologie comparée: L'homme et l'animal' (1877; 5th ed., 1911); 'Psychologie des grands hommes' (1883; 3d ed., 1912); 'Le crime' (1888); 'La France criminelle' (1889); 'Cours de philosophie' (9th ed., 1891); 'Socialisme chrétien' (1892); 'A travers l'Europe' (1898); 'Malebranche' (1901); 'Sainte Theresa' (1901; Eng. trans., 1906); 'De la corruption de nos institutions' (1903); 'Le Belgique criminelle' (1907); 'La Hollande sociale' (1908); 'La Suisse politique et sociale' (1909); 'Problèms de science-criminelle' (1910); 'L'Italie contemporaine' (1911); 'L'Enfant' (1912); 'Histoire de la civilization' (1913).

JOLY, jō'lē, John, Irish physicist: b. Hollywood, King's County, Ireland, 1857. He received his education at Trinity College, Dublin; served there as demonstrator in civil engineering in 1882–91; and demonstrator in experimental physics in 1893. Since 1897 he has been professor of geology and mineralogy in the University of Dublin. He is scientific adviser to Dr. Steevens' Hospital, Dublin, and in 1911 was awarded the Boyle medal of the Royal Dublin Society. In 1918 Dr. Joly visited the United States as a member of the university commission to secure a closer rapprochement between the institutions of higher education in England and the United States. He has published 'Radioactivity and Geology' (1909); 'The Birth-time of the World, etc.' (1915); 'Synchronous Signalling in Navigation,' and contributions to the Royal Society, the *Philosophical Magazine*, etc.

JOLY DE LOTBINIÉRE, zhō'lē' dĕ lō'bē'nyār', **Sir Henri Gustave,** Canadian statesman: b. France, 5 Dec. 1829; d. Quebec, 15 Nov. 1908. He was educated in Paris, called to the bar of Lower Canada in 1855 and was first returned to the legislature in 1861. After Confederation he led the opposition in the Quebec legislature for some years, and was provincial premier 1878–79). He was controller and later Minister of Inland Revenue in the Dominion Cabinet, 1896–1900; and was lieutenant-governor of British Columbia, 1900–06.

JOMARD, zhō'mār, **Edme François,** French Egyptologist: b. Versailles, 1777; d. 1862. He was educated at the Ecole Polytechnique; went to Egypt with the French army in 1798 as member of the scientific commission. He became secretary of the latter in 1802. He edited 'La description de l'Egypte,' to which he made several contributions. He was one of the founders of the Geographical Society of Paris in 1821 and seven years later was made curator-director of the Royal Library. Acting on Jomard's advice, Mehemet Ali sent several Egyptian youths to be educated under him in France, and in this way was started the Institut des Egyptiens. Jomard received the title of Bey from the Khedive. He published 'Voyage à l'Oasis de Syouah' (1823) and 'Remarques sur les rapports de l'Ethiopie et l'Egypte' (1822).

JOMINI, zhō'mē'nē', **Antoine Henri,** BARON, general in the French and afterward in the Russian service, and writer on military tactics: b. Payerne, Vaud, Switzerland, 6 March 1779; d. Passy, 24 March 1869. He began his military career in a Swiss regiment in the French service, and chiefly through the friendship of Ney was raised to high military rank by Napoleon. In 1804 he began the publication of 'Traité des grandes operations militaires.' He distinguished himself in active service during the retreat from Russia, but offended at his treatment from Napoleon, really Berthier, the latter's chief of staff, he passed over to the allies after the armistice of Plaeswitz, and entered the service of Russia, in which he became lieutenant-general and aide-de-camp to the emperor. He declined to take part in the invasion of France in 1814. In 1828 he was active in the military operations at Varna; and in 1856 returned to Paris. Besides the work already mentioned, his 'Histoire critique et militaire des campagnes de la Révolution' (5 vols., Paris 1806); 'Vie politique et militaire de Napoleon' (4 vols., Paris 1827); 'Tableau analytique des principales combinaisons de la guerre' (1830);

'Précis de l'art de la guerre' (1836) are still of interest and value. Consult Lecomte, 'Le général Jomini' (3d ed., Lausanne 1888).

JOMMELLI, yō-mĕl'lē, **Nicolò,** Italian composer, b. Naples, 11 Sept. 1714; d. 28 Aug. 1774. He studied music with Muzillo, Prota, Mancini and Leonardo Leo; first composed cantatas, then applied himself to dramatic music, produced his first opera, 'Errore amoroso,' at Naples, in 1737, and his first serious opera, Odoardo,' in 1738, and the fame achieved by these works led to his being invited to Rome in 1740. There, under the patronage of Cardinal York, he composed two new operas, and in 1741 went to Bologna and composed 'Ezio' and studied with Padre Martini. He then made a tour of the chief cities of Italy; produced 'Didone' in Rome, 'Merope' for the theatre and a 'Laudate' for the church of San Marco, Venice, and 'Eumene' in Naples. He spent two years in Vienna giving instruction in music to the empress; and in 1748 was recalled to Rome, where he composed 'Artaserse' and the oratorio 'La Passione' and was appointed chapel-master of Saint Peter's Church. He resigned this office in 1754 and was chapel-master and court-composer at Stuttgart till 1772, when he returned to Naples. His last, and believed by many his greatest, work, the 'Miserere,' was composed after he had been paralyzed. His works comprise 40 operas, 5 cantatas, 4 oratorios and 34 church compositions. Consult Albert, H., 'Niccolo Jommelli als Opernkomponist' (Halle 1908).

JONAH, a Hebrew prophet: b. Gath-hepher, Zebulon, c. 781 to 741 B.C. The son of Amittai, he lived in the early years of the reign of Jeroboam II, king of Israel, who acceded to the throne in 781 B.C. He foretold the victories of Jeroboam over the Syrians, as related in 2 Kings xiv, 25. The book of Jonah, written some three centuries later, describing his mission to Nineveh to warn the inhabitants of the destruction of their city within 40 days tells all that is known of his subsequent life. See JONAH, BOOK OF.

JONAH, Book of. The book of Jonah is written concerning a prophet, Jonah, the son of Amittai, doubtless to be identified with the prophet of that name whose prediction in the time of Jeroboam II is recorded in 2 Kings xiv, 25. The book was written much later than the lifetime of the prophet, however. The language of the book is particularly decisive, for Armaisms and other late words afford clear evidence that it was written after the exile. The thought of the book makes it probable that it was intended as a protest against the narrowness of postexilic Judaism, which was most conspicuous after the time of Ezra and Nehemiah. It is probable, therefore, that the book is not earlier than 400 B.C., and may be somewhat later than that. The phrase "the king of Nineveh," iii, 6, is in accord with this dating, since it is one which would not have been used until some time after the end of the kingdom of Assyria, in 606. Concerning the personality of the author, or authors, nothing is known outside of the book itself.

The nature of the book is much disputed. It has in the past often been considered to be historical, but various features of the book are against that, of which the swallowing of Jonah by the fish and his later deliverance unhurt, and the repentance of the whole city of Nineveh at the call of an unknown foreign prophet are but more conspicuous features among many improbabilities. It is a book of wonders, not of history. Some have given it an allegorical interpretation, Jonah representing the nation Israel and Babylon being the fish which swallowed the nation during the exile. But the details of the treatment do not yield themselves readily to an allegorical interpretation. It is to be regarded as a story designed to teach a lesson, a romance. The story as such is doubtless the creation of the author. It may be based upon some current story or stories. Similar stories of the swallowing of a man by a monster and later deliverance are common among many ancient peoples. The somewhat similar story of Perseus and Andromeda is located at Joppa, the port from which Jonah embarked.

There has been some question whether the book is all by one author. With the exception of a few words here and there, however, there seems no reason for question except in reference to the psalm in ii, 2–9. That is undoubtedly not by the author of the remainder of the book. First of all, it is inappropriate at this point, Jonah can hardly have been thought to utter this while within the whale, and in its nature it is a thanksgiving for deliverance and not a prayer for such deliverance. It would be more appropriate if put after verse 10. But even then it would be in some measure inappropriate. The psalm presupposes no such experience as Jonah's but only drowning. The drowning, in accordance with the usage of the psalms of the Old Testament, is more probably figurative, as a description of extreme trials, than literal. The psalm was doubtless composed independently and probably in use in some collection of psalms, it being similar to those in the Book of Psalms. Nothing definitely indicates whether the psalm was added by the author or by a later reader or editor. In any case it is more probable that it was originally designed to be after verse 10, but was accidentally transposed. If added later, it was probably written on the margin, so that its transposition would be easy. The psalm consists largely of reminiscences of other psalms, and hence is probably postexilic.

In literary form the book excels; as a romance it is very artistically worked out.

There are two principal thoughts in the book. The first concerns the nature of the prophet's work, particularly in prediction. The purpose of the prophet is a practical one, to affect the lives of the hearers; not to present a program of the future, but so to present that future as to influence the lives of those addressed. This influence may so change their lives that the prediction of punishment will not be fulfilled. The prediction is conditional, as had been stated by earlier prophets. The other thought, and the principal one, concerns the character of God and his plans for men. The thought of God is not limited to the nation Israel, but is concerned with mankind generally. Even the great oppressor of Israel, Assyria, is the object of God's loving care; the people of that nation may find mercy from God if they repent. It is God's world-wide plans of mercy for men that are here presented, quite in the spirit of Deutero-

Isaiah. It is one of the most exalted messages in the Old Testament.

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GEORGE RICKER BERRY,
Professor of Old Testament Interpretation and Semitic Languages, Colgate University.

JONAH CRAB, a crab of southern New England (*Cancer borealis*) related to the common edible species, but more robust and with a thicker, harder shell. It lives at low tide on exposed rocky shores and is sometimes found buried at 10 fathoms.

JONAS, HŌ-nās, **Alberto,** Spanish pianist: b. Madrid, 1868. His musical studies were prosecuted at the Madrid Conservatory and at the Brussels Conservatory in 1886-90. He also studied under Rubinstein at Saint Petersburg and made a successful début at Berlin in 1891. He held the chair of music at the University of Michigan from 1894 to 1905; removed to Berlin in 1906, but he returned to New York in 1914 where he teaches music.

JONAS, yō'näs, **Justus** (originally JOBST KOCH), German religious reformer: b. Nordhausen, Saxony, 5 June 1493; d. Eisfeldt, 9 Oct. 1555. He accompanied Luther to the Diet at Worms, assisted him in translating the Old Testament, took part in the Marburg Conference, as well as in drawing up the so-called articles of Torgau and was present at the Diet of Augsburg. He did good service to the cause of the Reformation, not only by his preaching, but by his vigorous translations into German of the Latin works of Luther and Melanchthon. Consult Lindsay, 'History of the Reformation in Germany' (New York 1906).

JONATHAN, son of Saul, king of Israel. He carried on the war against the Philistines for some time with victorious success, but in the battle of Gilboa (1033 B.C.) was slain. His friendship for David is one of the most beautiful incidents in Old Testament history, and the elegy or dirge composed by David on his death —'The Song of the Bow'— is in the highest strain of Hebrew poetry. Consult Schmidt, 'Messages of the Poets' (New York 1911).

JONATHAN BEN NUZZIEL, ŭz-zĭ-ĕl, a Hebrew scholar, who flourished about 30 B.C. He was one of the first 30 disciples of Hillel, all of whom were credited with great learning and ability. He translated some of the Hebrew prophetical writings into the Aramaic language and wrote expositions of Haggai, Zechariah and Malachi. Tradition has also credited him with 'The Paraphrase on the Pentateuch,' 'The Paraphrase on the Prophets' and 'The Paraphrase on the Five Migilloth.' Later Jewish writers ascribed them to the joint work of several persons.

JONES, Alfred, American engraver: b. Liverpool, England, 1819; d. New York, 28 April 1900. He came to the United States when young and received first prize at the National Academy of Design in New York, in 1839, for a drawing that he had made from Thorwaldsen's 'Mercury.' He first came into public notice by his engravings of 'The Proposal,' by Asher B. Durand, and 'The Farmer's Nooning,' after William S. Mount, and his work was in request for illustrated publications. He went to Europe in 1846 and after studying in life-schools there, was elected a member of the National Academy, New York, in 1851. He is regarded as one of the best engravers of his period in America. For many years he was connected with the American Banknote Company of New York, as an engraver. Among his steel plates are 'The Image Breaker,' after Leutze; portraits of Adoniram Judson by Chester Harding and William Cullen Bryant; 'The Capture of Major André,' after Durand; 'Sparking,' by Edmonds; 'The New Scholar'; 'Mexican News'; 'Life's Happy Hour' after Lillie M. Spencer; 'Poor Relations,' after J. H. Beard; 'Patrick Henry Delivering his Celebrated Speech.' Jones was run over by a cab in New York city and died of his injuries.

JONES, Amanda Theodosia, American poet: b. East Bloomfield, Ontario County, N. Y., 19 Oct. 1835; d. Brooklyn, N. Y., 1 March 1914. She was a contributor to many periodicals and was literary editor of the *Western Rural* in 1869-70. She invented and patented several vacuum preserving processes for canning without cooking and the desiccation of fruits, etc., also a series of valves applicable to oil, air, vacuum, steam, gas, etc. Some of her war songs were very popular. She published 'Ulah and Other Poems' (1860); 'Atlantis and Other Poems' (1866); 'A Prairie Idyl, and Other Poems' (1882); 'Rubaiyat of Solomon and Other Poems' (1905); 'Collected Poems' (1906); 'A Psychic Autobiography' (1910).

JONES, Anson, last president of the Republic of Texas; b. Great Barrington, Mass., 20 Jan. 1798; d. Houston, Tex., 7 Jan. 1858. He commenced the study of medicine in Litchfield, Conn., in 1817, and in 1820 was licensed to practise. He established himself in 1833 in Brazoria, Tex., and upon the outbreak of the troubles between Texas and Mexico, became one of the earliest advocates of the severance of the two countries. In the succeeding war of independence he served as a private soldier and as surgeon in the Texan army. In 1837-38 he was a representative in the Texan Congress from Brazoria County; in 1838 was sent as Minister to Washington, where he endeavored, though unsuccessfully, to secure the annexation of Texas to the United States, and on his return to Texas took his seat in Congress as senator from Brazoria and in 1841 was appointed by President Houston his Secretary of State, which office he filled three years. In September 1844 he was elected President of Texas for three years from the ensuing December and held that office until the annexation of Texas to the United States. He succeeded in maintaining a footing of equality in negotiations with England, France and the United States; and by the intervention of the two former powers the government of Mexico was induced to acknowledge the independence of Texas. His journal and autobiography appeared in book form in 1858. Jones County and Anson, its county-seat, were named after him.

JONES, Arthur Edward, Canadian clergyman, educator and author: b. Brockville, On-

tario, 17 Nov. 1838. He was educated at Saint Mary's College, Montreal, and Jesuit scholasticates at Amiens and Vals, France, Boston, Fordham and Woodstock, United States. In 1857 he entered the Jesuit order; taught Latin at Saint Mary's College, Montreal, in 1861–62 and subsequently was professor of *belles-lettres,* rhetoric and geometry at Saint John's College, Fordham, N. Y. He was ordained to the priesthood in 1873; was professor of *belles-lettres* at Saint Francis Xavier College, New York, in 1874–75 and in the following year gave missions in New Brunswick. From 1876 to 1881 he taught English literature and geometry at Saint Mary's, Montreal, and from 1882 to 1900 he was assistant priest at the church of the Gesù, Montreal, at the same time serving as archivist of Saint Mary's College. He identified the scene of the martyrdom of Pères, Brébeuf and Lallemant and other Huron villages famous in early Canadian annals. He collaborated with R. G. Thwaite in the latter's 'Jesuit Relations and Allied Documents.' At the Saint Louis Exposition of 1904 his historical and archæological exhibit won the grand prize and he himself was awarded a medal for his work as archivist. He invented a practical fire-escape for institutions and a perpetual calendar of movable feasts. In 1906, at Quebec, he lectured on Huron topography before the International Congress of Americanists. Dr. Jones was architect of several colleges of his order. He is a member of the Ontario Historical Society and other learned societies of Canada and the United States. He is the author of 'Biens des Jésuite en Canada' (1888); 'Sketch of Louis André, S.J.' (1889); 'Answer to a Communication in the Montreal *Star* and the *Gazette* and the Toronto *Mail* campaign against the Jesuit Estates Bill' (1889); 'A Jesuit Father on the Act' (1889); 'Site of the Mascoutin Village' (1907); 'Hendaké Ehen or Old Huronia' (1909–11). He discovered and edited, with biographical notes, Laure's 'Relation of the Saguenay Mission' (1893) and is a contributor to the *Recherches Historiques,* 'The Catholic Encyclopedia,' etc.

JONES, Charles Colcock, Jr., American author: b. Savannah, Ga., 28 Oct. 1831; d. 19 July 1893. He was graduated at Princeton (1852), at Harvard Law School (1855) and was admitted to the bar in 1856. He served as colonel of artillery in the Confederate army during the war for the Union and on the return of peace removed to New York, where he practised law. In 1877 he returned to Georgia and devoted his time to the study of the history and archæology of that State. He wrote 'Historical Sketch of the Chatham Artillery during the Confederate Struggle for Independence' (1867); 'Reminiscences of the Last Days of Gen. Harry Lee' (1870); 'Antiquities of the Southern Indians' (1873); 'Life of Commodore Josiah Tatnall' (1878); 'Negro Myths from the Georgia Coast, Told in the Vernacular' (1888); 'The History of Georgia' (2 vols., 1883); 'English Colonization of Georgia' (1887).

JONES, Edward (Bardy Brenin), Welsh bard and writer on music: b. Llanderfel, Merionethshire, 1752; d. London, 1824. His whole life almost was spent in studying the harp and in promoting Welsh minstrelsy. He went to London in 1775 and a few years later was made official bard to the Prince of Wales. He published 'Musical and Poetic Relics of the Welsh Bards' (1784; 1794); 'The Bardic Museum of Primitive British Literature' (1802); 'Lyric Airs, Consisting of Specimens of Melodies of Greek, Albanian, Wallachian, Turkish, Persian, Chinese and Moorish Melodies' (1804); 'Cheshire Melodies' (1803); 'The Musical Bouquet' (1799); 'The Musical Miscellany'; 'Terpsichore's Banquet'; 'The Minstrel's Serenade'; 'Maltese Melodies'; 'The Musical Portfolio'; 'Musical Remains of Handel, Bach, Abel, etc.'; 'Collection of Melodies for Beginners on the Harp.'

JONES, E(mily) E(lizabeth) Constance, English educator: b. about 1857. She received her university education at Girton College, Cambridge, taking first in the moral science tripos in 1880. She was examiner in logic in the Cambridge Higher Local in 1902–04; also resident lecturer on moral sciences at Girton from 1884 to 1903 and mistress of Girton College from 1903 to 1916. She is external member of the board of philosophic studies of the University of London, governor of the University College of Wales, and member of the council of the Cambridge Training College for Women. With Miss E. Hamilton she translated Lotze's 'Mikrokosmus,' and is the author of 'Elements of Logic as a Science of Propositions'; 'General Logic'; 'Primer of Logic' (2d ed., 1918); 'Primer of Ethics'; 'A New Law of Thought and its Logical Bearings' (1911); 'Girton College' (1913); 'Three Great Questions' (1915) and of various articles and reviews. She was entrusted with carrying through the press the 6th and 7th editions of the late Professor Sidgwick's 'Methods of Ethics' (1901) and with editing his 'Lectures on the Ethics of Green, Spencer, and Martineau' (1902).

JONES, Francis Coates, American painter: b. Baltimore, Md., 25 July 1857. He studied at the École des Beaux-Arts under Yvon, Lehmann, Boulanger and Lefebvre. Since 1882 he has maintained a studio in New York; his specialty is figure painting. He was awarded medals at the Buffalo and Saint Louis expositions and in 1894 was elected to the National Academy. He is a member of the National Institute of Arts and Letters and director of the American Federation of Arts. His paintings include 'A Perplexing Move' (1909); 'Cup of Tea' (1910); 'Nymphs Bathing' (1911); 'The Letter' (1911); 'The Sisters' (1912); 'A Wooded Hillside' (1912); 'The Trout Pool' (1913).

JONES, Frederick Scheetz, American educator: b. Palmyra, Mo., 7 April 1862. In 1884 he was graduated at Yale University and studied subsequently at the University of Berlin and the Zürich Polytechnic. From 1889 to 1909 he was professor of physics; from 1902 to 1909 dean of the College of Engineering of the University of Minnesota and since 1909 dean of Yale College.

JONES, George Heber, American missionary: b. Mohawk, N. Y., 14 Aug. 1867. He was educated in the public schools of Utica. In 1887 he was appointed missionary to Korea by the Methodist Episcopal Church; in educational

work at Seoul from 1888 to 1891; principal Pai Chai English School at Seoul in 1892–93; presiding elder at Chemulpo 1893–1903; superintendent of the Korean Mission of the Methodist Episcopal Church in 1897–99. From 1903 to 1907 he was in the United States, serving as a secretary to the board of missions and as lecturer. He returned to Korea in 1907; was president of the Korean Biblical Institute and the Union Theological School from 1907 to 1911. In 1915–18 he was special lecturer on missions at the Boston University School of Theology. Since 1913 he has been editorial secretary to the board of foreign missions of the Methodist Episcopal Church. He published 'Korea: Country and People' (1907); 'English-Korean Dictionary of Scientific and Technical Terms' (1910).

JONES, Harry Clary, American chemist: b. New London, Md., 11 Nov. 1865; d. 19 March 1916. In 1889 he was graduated at Johns Hopkins University, and studied subsequently at Leipzig, Amsterdam and Stockholm. After his return to the United States he became instructor in physics at Johns Hopkins, associate professor in 1900 and professor in 1904. He edited the *Zeitschrift für physikalische Chemie* and *Journal de Chimie physique.* In 1913 he was awarded the Langstreth medal of the Franklin Institute. He published 'Freezing Point, Boiling Point, and Conductivity Methods' (1897); 'Theory of Electrolytic Dissociation' (1900); 'Elements of Physical Chemistry' (1902; Russian 1911; Italian 1912); 'Elements of Inorganic Chemistry' (1903); 'Electrical Nature of Matter and Radioactivity' (1906); 'Hydrates in Aqueous Solutions' (1907); 'The Absorption Spectra of Solutions' (1909); 'Introduction to Physical Chemistry' (1910); 'Electrical Conductivity of Salts and Organic Acids' (1912); 'New Era in Chemistry' (1913) and many papers in professional journals.

JONES, Sir Henry, Welsh educator: b. Llangernyw, North Wales, 1852. In 1879 he was graduated at the University of Glasgow. He was professor of philosophy and political economy at the University College of North Wales and subsequently professor of logic and metaphysics at Saint Andrew's. Since 1894 he has been professor of moral philosophy at the University of Glasgow. In 1912 he was knighted. His publications include 'Browning as a Religious and Philosophical Teacher' (1891; 6th ed., 1912); 'The Philosophy of Lotze' (1895); 'Idealism as a Practical Creed' (1909); 'The Working Faith of the Social Reformer' (1910); 'Social Powers' (1913).

JONES, Henry Arthur, English dramatist: b. Grandborough, Buckinghamshire, 28 Sept. 1851. After a secondary education, he took up writing as a means of livelihood, and in 1879 appe[illegible]ywright with 'A Clerical Error,' per[illegible] Wilson Barrett at the Court T[illegible]llowed this by a series of com-ed[illegible]n life, clever in dialogue and stag[illegible]n have been very popular, particularly [illegible]nglish audiences. They include 'Silver [illegible] (1882); 'Saints and Sinners' (1884); [illegible]dleman' (1889); 'Judah' (1890); 'The D[illegible]ng Girl' (1891); 'The Tempter' (1893); 'The Masqueraders' (1894); 'Michael and His Lost Angel' (1896); 'The Rogue's Comedy' (1896); 'The Liars' (1897); 'The Manœuvres of Jane' (1898); 'Carnac Sahib' (1899); 'Mrs. Dane's Defence' (1900); 'The Princess's Nose' (1902); 'Joseph Entangled' (1904); 'The Hypocrites' (1906); 'The Evangelist' (1907); 'Dolly Reforming Herself' (1908); 'Mary Goes First' (1913); 'The Lie' (1914). He is also author of a number of essays and lectures. He visited the United States in 1914. See Michael and His Lost Angel.

JONES, H(ugh) Bolton, American painter: b. Baltimore, Md., 20 Oct. 1848. He studied art in Baltimore and in France; made a specialty of landscapes. In 1889 he was awarded a third class medal at the Paris Exposition and a medal at the Columbian Exposition, Chicago, in 1893. He received a bronze medal at the Paris Exposition of 1900 and a gold medal at the Saint Louis Exposition of 1904. In 1883 he was elected to the National Academy. In the Metropolitan Museum, New York, are his 'Autumn' and 'Spring.' He is a member of the National Institute of Arts and Letters.

JONES, Inigo, English architect: b. London, 15 July 1573; d. there, 21 July 1652. He was the son of a clothworker and began life as a carpenter, but showing a taste for painting, William, Earl of Pembroke, supplied him with the means of visiting Italy for the purpose of studying landscape painting. At Venice the works of Palladio inspired him with a taste for architecture. He was appointed first architect to Christian IV, king of Denmark, but in 1605 he returned to his native country. After being employed for a time as a scenic and stage artist, he was appointed in 1610 surveyor of the works to Henry, Prince of Wales. After the death of the prince he again visited Italy, and extended his knowledge and improved his taste from the examination of the models of ancient and modern art. The banqueting house at Whitehall is a monument of his skill and science. At Winchester Cathedral he erected a screen in the style of classic antiquity. Like Wren he seems not to have duly appreciated the Pointed style of building. He built the front of Wilton House, in Wiltshire, for Philip, Earl of Pembroke, and was much employed by the court and by many of the nobility and gentry. He also designed the scenery and decorations for masques — a species of dramatic entertainment fashionable in the early part of the 17th century. In these pieces the dialogues and songs were composed by Ben Johnson, who quarreled with Jones and abused him in epigrams and satires. Being a Roman Catholic and a partisan of royalty, he suffered in the Civil War, and in 1646 was forced to pay a heavy fine as a malignant or cavalier. As an author he is known by a work on Stonehenge, composed by command of King James I, in which he undertook to prove that Stonehenge was erected by the Romans, and was a hypæthral temple dedicated to the god Cœlus. He was the reviver of classical architecture in England, but he blended Gothic elements with the Italian style. Among his works besides those mentioned are the Greenwich Hospital, the old London Exchange and the portico of Saint Paul's Church and Earl Pembroke's house. Consult the 'Life' by Cunningham (1898); Loftie, 'Inigo Jones and Wren'

(1893), and the papers by Blomfield in the *Portfolio* for 1889.

JONES, Jacob, American naval officer: b. near Smyrna, Del., March 1768; d. Philadelphia, 3 Aug. 1850. He entered the United States navy in 1799 as a midshipman, and while serving in the war with Tripoli was captured in 1803 and held a prisoner for 18 months. In 1812 he became commander of the *Wasp* and with her captured the English brig *Frolic,* 18 Oct. 1812, but on the following day encountered the English war vessel *Poictiers,* 74 guns, by which both the *Wasp* and its prize were taken. He was released on parole at Bermuda and for his victory over the *Frolic* was voted a gold medal by Congress and $25,000 was granted to him and his crew in payment of the personal loss they had sustained. He subsequently commanded squadrons in the Mediterranean and the Pacific.

JONES, James Kimbrough, American politician: b. Love, Marshall County, Miss., 29 Sept. 1839; d. 1 June 1908. His parents were residents of Tennessee, but in 1848 removed to a plantation in Dallas County, Ark. James served in the Confederate army during the Civil War, and then engaged in planting till 1873, when he began to practise law in Dalton County, Ark. He was a member of the State senate in 1873–77 and its president in the last-named year. In 1881–85 he was a member of Congress, having been elected as a Democrat, and in the latter year was elected to the United State Senate. He was re-elected in 1890 and 1897, and was chairman of the Democratic National Committee, conducting the Presidential campaigns of 1896 and 1900. Jones was an ardent tariff reformer. He retired from politics in 1903 and entered on the practice of law in Washington.

JONES, Jenkin Lloyd, American Unitarian clergyman: b. Llandyssil, Cardiganshire, Wales, 14 Nov. 1843. He came to America with his parents while an infant, served in a Wisconsin regiment during the Civil War, and was graduated from the Meadville (Pa.) Theological Seminary in 1870. He was instrumental in organizing the Congress of Religion. *Unity,* the organ of the congress, was edited by him after 1879. In 1909 he was given the degree of LL.D. by the University of Wisconsin. He was pastor of All Souls Unitarian Church, Janesville, Wis., 1874–83; was secretary of the Western Unitarian Conference for nine years, and since 1883 has been pastor of All Souls Church, Chicago (independent), and since 1905 head resident of the Abraham Lincoln Centre. He has been, since its inception, identified with the Peace movement, and is noted as a lecturer throughout the United States. Among his published works are 'The Faith that Makes Faithful,' with W. C. Gannett (1886); 'Practical Piety' (1890); 'Bits of Wayside Gospel' (1899); 'Love and Loyalty' (1907); 'On the Firing Line in the Battle for Sobriety' (1910), etc.

JONES, John, American surgeon: b. Jamaica, L. I., 1729; d. 1791. He studied medicine in Europe, and, returning to America, practised in New York, becoming professor of surgery in King's College, and, with Dr. Bard, founding the New York Hospital in 1771. After the occupation of New York by the English forces in 1777 he removed to Philadelphia, there being one of the physicians of the Pennsylvania Hospital, and in 1787 vice-president of the College of Physicians. He was the friend and physician of both Washington and Franklin, attending the latter in his last illness. He published 'Plain Remarks upon Wounds and Fractures' (1775).

JONES, John Paul, the first of the great American sea fighters, and not the least splendid in the long line, was born John Paul — the name Jones being a subsequent assumption — on 6 July 1747 on the estate of Arbigland, in the parish of Kirkbean, in the county of Kircudbright, Scotland; d. Paris, 18 July 1792. His family was obscure, his circumstances narrow, his advantages meagre, his opportunities limited. At the age of 12 he became a sailor. Genius rose superior to adverse circumstances, however, and before he died he was one of the most accomplished officers who ever served the United States. The greatest men of America and France took pleasure in his society and were proud of his friendship.

He progressed rapidly in his chosen career. At 19 he was chief mate of a slaver, a legitimate occupation in his day, but one that filled him with disgust. At 21 he was captain of a trader. In 1773 he came to America, forsook the sea and settled in Virginia on his brother's plantation, the latter having died childless in that year. It was at this time that he assumed the name Jones, by which he is so well known.

He was still poor and obscure when on 7 Dec. 1775 he was appointed a lieutenant in the new Continental navy, and was ordered to the *Alfred,* a small converted merchantman, Commodore Hopkins' flagship, on which, in the latter part of December, he had the honor of hoisting with his own hands the first naval flag of an American squadron. This was the famous yellow silk banner with a rattlesnake, and perhaps a pine tree, emblazoned upon it, with the significant legend, «Don't tread on me!» See FLAG OF THE UNITED STATES.

Hopkins made an abortive expedition to New Providence, in which Jones had but one opportunity to distinguish himself. At the peril of his commission, when the regular pilots refused to do so, he volunteered to take the *Alfred* through a difficult and dangerous channel. Needless to say, he succeeded — he always succeeded!

His first independent command was the little brig-ship *Providence,* of 70 men and 12 4-pound guns. In the fall of 1775 he made a notable cruise in this vessel; he skirmished with, and escaped from, by seamanship and [illegible], two heavy frigates, the *Solebay* and t[illegible]*ford;* in four months he captured 16 [illegible]8 of which were sent in as prizes, 5[illegible] returned to certain poor fisherme[illegible] stroyed property aggregating $[illegible]

Later, in command of the [illegible] short crew of 150 when he sh[illegible] 300, he made another brilliant c[illegible] he burned several British transp[illegible] one storeship laden to the gunwale[illegible] less munitions of war and supplie[illegible]t out three of the coal fleet from under th[illegible] guns of the *Flora* frigate, and had another smart brush with the *Milford.*

He was commissioned captain in the navy on 10 Oct. 1776, and on 14 June 1777, in the same resolution that established the form of the American flag, he was ordered to the *Ranger*, a small ship-rigged corvette of 300 tons and 18 6-pounders. On her, at Portsmouth, N. H., on 4 July, he hoisted the first Stars and Stripes that ever flew from the peak of an American man-of-war. Sailing for European waters, he carried to France the official dispatches announcing Burgoyne's surrender, which brought about the Franco-American alliance.

In Quiberon Bay, late on the evening of 14 Feb. 1778, in the *Ranger*, he received the first formal recognition ever given by a foreign fleet to the United States in a salute to the American flag. As it was after sunset when the salutes were exchanged, in order that there should be no mistake about it, the next morning, 15 February, Jones transferred his flag to the *Independence*, a small privateer, and deliberately sailed through La Motte Piquet's fleet of battleships, saluting and receiving salutes again.

In April 1778, still on the *Ranger*, he left Brest on a cruise in British waters, which took him around Ireland. During this cruise he made daring but abortive attempts to burn the shipping at Whitehaven, and to capture the Earl of Selkirk at Saint Mary's Isle. On the evening of 24 April, off Carrickfergus, he fought the British sloop-of-war *Drake*, of equal force and larger crew, to a standstill in an hour and five minutes. When the *Drake* struck her flag, her rigging, sails and spars were cut to pieces. She had 42 killed and wounded — more than one-fifth of her crew — and was completely helpless. The *Ranger* lost 2 killed and 6 wounded.

In 1779 Jones hoisted his flag on the *Duc de Duras*, a condemned East Indiaman, which would have been broken up had he not turned her into a makeshift frigate by mounting 40 guns in her batteries — 14 12-pounders, 20 nines and 6 eighteens. This, in honor of Franklin, he renamed the *Bon Homme Richard*. Accompanied by the fine little American-built frigate *Alliance*, 32, commanded by Pierre Landais, an incompetent and unbalanced French naval officer in the American service, the French corvette *Pallas*, 30, Captain de Cottineau, with the brig *Vengeance*, 12, and the cutter *Cerf*, 16, Jones cruised around England and Scotland, taking many valuable prizes and striking terror all along the shore, in spite of constant mutiny and insubordination among the ships, officers and men of his heterogeneous squadron.

On the evening of 23 September, off Flamborough Head, he fell in with the valuable Baltic convoy. He was accompanied at the time only by the *Alliance* and the *Pallas*. The Baltic convoy was protected by the *Serapis* and the *Scarborough*. The *Serapis* was a brand-new double-banked frigate of 800 tons, carrying 20 18-pounders, 20 nines and 10 sixes. Inasmuch as the 18-pounders on the *Richard* burst and were abandoned after the first fire, the *Serapis* could and did discharge nearly twice as many pounds' weight of broadsides as the *Richard* — say, 300 pounds to 175. The *Pallas* grappled with the *Scarborough* — a more equal match — and Jones attacked the *Serapis*, which was not unwilling — quite the contrary — for the fight.

The battle was one of the most memorable and desperate ever fought upon the ocean. The *Richard* was riddled like a sieve. Her rotten sides were literally blown out to starboard and port by the heavy batteries of the *Serapis*. Jones had several hundred English prisoners on board. The master-at-arms released them, but with great readiness and presence of mind Jones, who was brilliantly supported by Richard Dale, his first lieutenant, sent them to the pumps while he continued to fight the English frigate, his own ship kept afloat by their efforts.

Captain Pearson of the *Serapis* was a brave man, but no match for the indomitable personality of the American commander. After several hours of such fighting as had scarcely been seen before on the narrow seas, he struck his flag. The *Alliance*, commanded by a jealous and incapable Frenchman, had contributed nothing to Jones' success. Indeed, she had twice deliberately poured her broadsides into the *Richard* in spite of frequent warning. The American vessel was so wrecked alow and aloft that she sank alongside, and Jones had to transfer the survivors of his crew to the English frigate. The aggregate of the two crews was nearly 700, of which about 350 were killed or wounded. The *Scarborough* was captured by the *Pallas* after a smart action.

Jones took his prizes into the Texel, when, after showing himself as vigorous and able in statecraft in maintaining American honor in diplomatic intrigues as he was at sea in battle, he was forced to turn over the *Serapis* and *Scarborough* to France.

The poverty of America did not permit Jones to get to sea in adequate ships thereafter, although he subsequently commanded successively the *Alliance* and the *Ariel*, a small sloop-of-war, in which he caused the British letter-of-marque *Triumph* to strike her flag after a brief action, from which she escaped by a clever ruse, he performed no other conspicuous service.

After the Revolution he took service under Catherine of Russia, carefully reserving his American citizenship. In her service, in June and July 1788, he fought four brilliant actions in the Black Sea, in which he had to contend with the usual discouragement of indifferent personnel and wretched material, and in which he displayed all his old-time qualities, winning his usual successes, too.

Worn out in unrequited service, disgusted with Russian court intrigues of which he was the victim, resentful of the infamous Potemkin's brutal attempts at coercion, he asked leave of absence from Catherine's service and went to Paris, where in the companionship of his friends and in the society of the beautiful Aimée de Telison, the one woman he loved, he lived two years, and died of dropsy on 18 July 1792, at the age of 45.

Besides the memory of his battles, Paul Jones left a collection of immortal sayings, which are the heritage of the American navy and the admiration of brave men the world over.

"I do not wish to have command of any ship that does not sail fast, for I intend to go in harm's way!"

"I have ever looked out for the honor of the American flag."

"I can never renounce the glorious title of a citizen of the United States."

Last, but not least, the curt phrase which comes ringing through the centuries like a trumpet call to battle; the words with which he replied to the demand of the astonished Pearson, who saw the enemy's ship beaten to a pulp, and wondered why he did not yield:

"I have not yet begun to fight!"

Never in his long career did Jones have a decent ship or a respectable crew. His materials were always of the very poorest. His officers, with the exception of Richard Dale, were but little to boast of. What he accomplished he accomplished by the exercise of his own indomitable will, his serene courage, his matchless skill as a sailor and his devotion to the cause he had espoused. After his death, among his papers, the following little memorandum of his services, written in his own hand, was found:

In 1775, J. Paul Jones armed and embarked in the first American ship of war. In the Revolution he had 23 battles and solemn rencontres by sea; made 7 descents in Britain and her colonies; took of her navy two ships of equal, and two of superior force, many store-ships, and others; constrained her to fortify her ports; suffer the Irish volunteers; desist from her cruel burnings in America, and exchange, as prisoners of war, the American citizens taken on the ocean, and cast into prisons of England, as "traitors, pirates, and felons!"

Paul Jones was accused of being a pirate. The charge was a long time dying, but it is to-day generally withdrawn. His status was clear and unequivocal. He was a regularly commissioned officer in the navy.

In person Jones was a small, slender, well-made man, about five feet seven inches high. His complexion was dark, his features were regular and his eyes black and brilliant. He had acquired a charming manner, especially with women, and not a little education and polish in his varied career. He wrote and spoke fluently, and, like Nelson, sometimes amused himself by making indifferent verse. His chief fault was his vanity. In morals he was rather above the custom of the time and the society in which he mingled. He had one child by Aimée de Telison, which died in infancy.

As a strategist, tactician and fighter he stands high among naval captains. Louis XVI conferred on him the Order of Military Merit and presented him with a magnificent sword; the Empress Catherine appointed him a rear-admiral and created him a knight of Sainte Anne and Congress formally thanked him and awarded him a gold medal for his services. He was accorded the honor of a public funeral by the French Assembly, and was buried in a Protestant cemetery at the corner of the Rue de la Grange aux Belles and the Rue des Ecluses Saint Martin, in Paris. In the spring of 1905, through the efforts of Gen. Horace Porter, American Ambassador to France, his remains were discovered and identified and brought to America in the armored cruiser *Brooklyn*, flagship of Rear-Adm. Charles D. Sigsbee's accompanying squadron. They are interred at the United States Naval Academy at Annapolis, Md., awaiting the completion of a suitable resting place for them.

There is one mystery connected with Jones' life which has never been cleared up. No one knows why John Paul assumed the name Jones. There have been two attempts at explanation: one that he took it in testamentary succession to his brother, William Paul, who had taken the name Jones to inherit property from one William Jones, a Virginia planter. This is now disproved, and the prevailing theory is that the name was assumed by John Paul out of respect and affection for the Jones family of North Carolina, from whom he had received much kindness.

Bibliography.— Barnes, J. S., 'Logs of the Serapis, Alliance, Ariel, under the Command of John Paul Jones 1779–80' (New York 1911); Crawford, R. M., 'The Sailor whom England Feared' (London 1913); Fanning, Nathaniel, 'Fanning's Narrative, the Memoirs of Nathaniel Fanning of the American Navy 1778–83' (ib. 1913); Tooker, L. F., 'John Paul Jones' (New York 1916); Brady, C. T., 'Commodore Paul Jones' (New York 1900); Buell, 'John Paul Jones, the Founder of the American Navy'; Hapgood, 'Paul Jones' (Boston 1901); Laughton, J. K., 'Studies in Naval History' (New York 1887); Taylor, Janette, 'Life and Battles of John Paul Jones' (Boston 1855).

CYRUS TOWNSEND BRADY.

JONES, John Percival, American politician: b. Herefordshire, England, 1830; d. 1912. His parents brought him to the United States in 1831 and settled in northern Ohio. He was educated in the schools of Cleveland and in the early days of California gold-mining he journeyed across the Rockies to that State, where he acquired several mining interests and was successful as an operator. He was for a time sheriff of Tuolumne County and in 1863–67 was a member of the State senate. In the latter year he removed to Nevada, where he became a proprietor of the Crown Point silver mine, through which he realized a fortune. He became powerful in State politics through his influence with the miners. He was elected to the United States Senate from Nevada in 1873, was re-elected as a Republican in 1879, 1885 and 1891 and as a "Silverite" in 1897. He was an influential member of the Senate committees on Post Roads and on Mines and Mining, in which field his experience was invaluable. After 1875 he stood forth as a champion of bimetallism and supported W. J. Bryan in 1896. He returned to the Republican fold in 1900, but still held to his free-silver coinage doctrine and retired in 1903.

JONES, John William, American clergyman and author: b. Louisa, Va., 25 Sept. 1836; d. Columbus, Ga., 17 March 1909. He was graduated from the University of Virginia in 1859 and from the Southern Baptist Theological Seminary, and during the war served as private and then chaplain in the Confederate army. He was paster of a Baptist church in Lexington, Va., 1865–71, and chaplain of Washington College during Lee's presidency, and since the last-named date was successively agent of various Southern institutions, chaplain of the University of Virginia and pastor of several churches. Besides editing 14 volumes of 'Southern Historical Papers' he published [illegible]nal Reminiscences, Anecdotes and Le[illegible] E. Lee' (1874); 'Christ in the Camp, or Religion in Lee's Army'; 'Memorial Volume of Jefferson Davis'; 'History of the United States,' etc.

JONES, Leonard Augustus, American jurist: b. Templeton, Mass., 13 Jan. 1832; d.

1909. He was graduated from Harvard in 1855 and from Harvard Law School in 1858. He was admitted to the Suffolk bar in 1858 and practised until 1874 when he became associate editor (1874–1904) and later editor (1904–07) of the *American Law Review.* Among his many legal works are 'Law of Mortgages and Real Property' (6th ed., 1904); 'Law of Mortgages of Personal Property' (5th ed., 1908); 'Law of Easements' (1898); 'Index to Legal Periodical Literature' (2 vols., 1889); 'Legal Forms' (6th ed., rev., 1909); 'Real Property' (2 vols., 1896); 'Collateral Securities and Pledges' (3d ed., 1912); 'Corporate Bonds and Mortgages' (3d ed., 1907); 'Landlord and Tenant' (1906). He was appointed judge of the Court of Land Registrations in 1898.

JONES, Lewis Ralph, American botanist: b. Brandon, Wis., 5 Dec. 1864. In 1883–86 he studied at Ripon College; in 1889 at the University of Michigan. From 1889 to 1910 he was professor of botany at the University of Vermont and botanist of the Vermont Experiment Station. Since 1 Feb. 1910 he has been professor of plant pathology at the University of Wisconsin. He carried out investigations in the laboratory of the Bureau of Plant Industry, Washington, in 1904, and is a collaborator of the Department of Agriculture. He is a member of many botanical societies and is the author of botanical reports, bulletins, etc., in scientific magazines. He is editor of the *American Journal of Botany* and of the bacteriological terms of Webster's 'New International Dictionary.'

JONES, Sir **Lyman Melvin,** Canadian capitalist: b. York County, Ontario, 21 Sept. 1843; d. 15 April 1917. As a youth he entered the employment of A. Harris, Son & Co., agricultural implement makers, Brantford; on the formation of the Massey-Harris Company, Toronto, in 1891, became manager of the consolidated companies; and in 1902 president and general manager. He took a considerable interest in public affairs, and while resident in Winnipeg was mayor of the city (1887–88) and treasurer in the Greenway provincial government 1888–89. He was a Liberal in politics and was called to the senate in 1901, but opposed his party during the reciprocity issue in 1911, and in that year he was knighted.

JONES, Owen, English architect: b. London, 15 Feb. 1809; d. there, 19 April 1874. In 1834 he traveled in Spain and studied the art monuments of Granada, after which he visited Egypt. On returning to England he published his great work on the Alhambra. In 1851 he undertook the decoration of the Crystal Palace at the first Universal Exhibition. He also furnished the various courts of different architecture, notably the «Alhambra Court.» His researches and publications had a wonderful influence on the decorative art of England, especially his 'Grammar of Ornament,' in which he illustrated the decorative devices of all nations. He published 'Plans, Elevations, Sections and Details of the Alhambra' (1845).

JONES, Peter, American Indian missionary: b. 1 Jan. 1802; d. 29 June 1856. His Indian name was Kahkewaquonaby; his father was a white man of Welsh descent named Augustus Jones, who maintained the closest friendship with Brant during the latter's life. Peter's mother was Tuhbenahneeguay, daughter of a chief of the Missisauga on Credit River at the extreme western end of Lake Ontario. Peter remained with his tribe, following their customs and accompanying them on their excursions, until his 16th year, when his father, who was then a government surveyor, had him baptized by an English Episcopal minister. Having professed religion at a camp-meeting held near Ancaster, Ontario, and taken an active part in the religious exercises of the Wesleyan Methodist Church, Peter was sent on a missionary tour, in 1827, to Lake Simcoe and other points in western Ontario, although not yet ordained. He had by this time entered on his literary work, as in this year was published a hymnbook translated by him into Chippewa. He was constituted a Wesleyan Methodist minister at the Toronto Conference of 1833. The remainder of his life was devoted chiefly to missionary work among the Missisauga and Chippewa, and to some extent among the Iroquois. His position as a Christian pastor and ruling chief of his tribe gave him great influence, not only among his own people, but among all the Chippewa tribes. He visited England and New York and made repeated journeys in behalf of his people. It was largely through his efforts that the titles of the Credit Indians to their lands were perfected. A monument was erected to his memory, in 1887, at Brantford. In addition to the above-mentioned volume of hymns, Jones was author of 'An Ojibway Spelling Book' (1828); translation of part of the New Testament (1829); 'The First Book of Moses' (1835). He also wrote 'Life and Journals of Kah-ke-wa-quo-na-by (Rev. Peter Jones)' (1860); and 'History of the Ojibway Indians' (1861). Consult Pilling, 'Bibliography Algonq. Lang. Bull. B.A.E.' (1891).

JONES, Samuel Porter, commonly known as Sam Jones, American Methodist revival preacher: b. Chambers County, Ala., 16 Oct. 1847; d. 15 Oct. 1906. He was admitted to the Georgia bar in 1869 and practised successfully for a time. His drinking habits put an end to his career as a lawyer. Becoming converted in 1872 he was admitted to the ministry of the Methodist Church South, and afterward devoted himself to evangelistic work, his marked eccentricities of speech and manner probably contributing somewhat to his popularity. His works include 'Famous Stories of Sam P. Jones' (1908); 'Popular Lectures of Sam P. Jones' (1909); 'Sam Jones's Revival Sermons' (1912); 'Lightning Flashes and Thunderbolts' (1912).

JONES, Thomas, American lawyer: b. Fort Neck, Long Island, 30 April 1731; d. Hoddesdon, England, 25 July 1792. In 1750 he was graduated at Yale and in 1755 was licensed to practise law. In 1757 he was appointed clerk of Queens County (N. Y.) courts and for many years was attorney for the governors of King's College (now Columbia University). In 1769 he became recorder of New York city, retaining that office until 1773, when he was made judge of the Supreme Court in place of his father, serving until the close of the Revolutionary War, and held the last court under the Crown at White Plains in April 1776. On 27 June 1776 he was arrested at the instance of the New York Provincial Congress for refusing to

obey the summons of the committee to show why he «should be considered a friend of the American cause.» He was paroled but was re-arrested on 11 August, was detained a prisoner in Connecticut until December when he was paroled a second time. He was carried off a second time to Connecticut in 1779 and in April 1780 was exchanged for Gen. Gold S. Silliman. He went to England in 1781. The negotiations for peace in 1782 prevented his return, as he was included in the New York act of attainder, by which his life was *ipso facto* forfeited and his estate confiscated. Jones was the author of 'History of New York during the Revolutionary War' (latest ed., 1879).

JONES, Thomas ap Catesby, American naval officer: b. Virginia, 1787; d. 1858. Having entered the navy in 1805, he was employed in suppressing piracy, smuggling and the slave trade in the Gulf, saw service in the latter part of the War of 1812 when with a squadron of five gunboats he tried to bar the passage across Lake Borgne to Vice-Admiral Cochrane and his fleet. He inflicted great losses on the English, was himself seriously wounded before his vessels were captured. In 1826 he was sent to the Hawaiian Islands to settle the difficulties arising through the efforts of a local party to make the islands a British dependency. Jones secured the payment of debts claimed by American citizens and presided over a meeting of the factions and denied publicly the assertion of the British consul that the islands were a British dependency. While in command of the Pacific squadron in 1842 he heard that war had been declared between Mexico and the United States, and fearing from the actions of the British man-of-war *Dublin* that that government intended the annexation of California, he landed at Monterey and took possession in the name of the United States. Because of this imprudence he was removed temporarily from his command.

JONES, Walter, American physiological chemist: b. Baltimore, Md., 28 April 1865. He was graduated at Johns Hopkins in 1888. In 1891–92 he was professor of chemistry at Wittenberg College, Springfield, Ohio; in 1892–95 professor of analytical chemistry at Purdue University; in 1895–98 assistant in physiological chemistry at Johns Hopkins; associate professor there in 1898–1908 and professor since 1908. During the past 25 years he has given special attention to original investigations in the field of physiological chemistry, the results of which have been published through contributions to American, German and English technical journals. He has published 'Nucleic Acids' (1914).

JONES, Wesley Livsey, American legislator: b. near Bethany, Ill., 9 Oct. 1863. In 1886 he was graduated at the Southern Illinois College. In the same year he was admitted to the bar. He moved to the Territory of Washington just before its admission to Statehood, in 1889, and located at North Yakima, where he lived until 1917, when he removed to Seattle. From 1899 to 1909 he was member of Congress-at-large from Washington. In 1909 he was elected United States senator and was re-elected six years later.

JONES, Sir William, English lawyer and Oriental scholar: b. London, 28 Sept. 1746; d. Calcutta, 27 April 1794. He was educated at Harrow and Oxford and early acquired a reputation as a linguist, Hebrew, Persian, Arabic, and even Chinese, besides German, Italian, French, Spanish and Portuguese being among his acquisitions. In 1770 his translation (in French) of the life of Nadir Shah from the Persian appeared; in 1771 his grammar of the Persian language; in 1774 his 'Poeseos Asiaticæ Commentariorum Libri Sex,' and in 1783 his translation of the seven Arabic poems known as the 'Moallákat.' He had been called to the bar in 1774 and in 1783 was nominated judge in the Supreme Court of Judicature, Bengal, and knighted. Here he did much for the furtherance of Oriental studies, being one of the first Europeans to study Sanskrit, founding the Royal Asiatic Society, in 1784 translating the Sakuntala, the Ordinances of Manu, besides tales, poems, extracts from the Vedas, etc. He also undertook a digest of the Hindu and Mohammedan laws, which he did not, however, live to complete.

JONES, William, American anthropologist: b. Indian Territory, 1871; d. 1909. One of his great grandfathers was Wa-shi-ho-wa, a Fox chief. Jones was brought up by his grandmother on the Fox and Sauk Reservation. He was educated at Hampton Institute, Phillips Andover Academy and Harvard University, being graduated at the last-named institution in 1900. From Columbia he obtained the degree of Ph.D. He was employed by the American Museum of Natural History, New York, to collect ethnological specimens of the Sauk, Fox and Ojibwa tribes. He was a noted Indian linguist. He lost his life in the Philippines in an attack by the natives. He published 'The Algonkin Manitou'; 'Kickapoo Texts'; 'Fox Texts'; 'Some Principles of Algonquian Word-Formation' (1904); 'Mortuary Observances and the Adoption Rites of the Algonquin Foxes of Iowa.'

JONESBORO, jŏnz'bŭr-ō, Ark., city, county-seat of Craighead County, on the Saint Louis and San Francisco, the Saint Louis Southwestern and the Jonesboro, Lake City and Eastern railroads, about 120 miles northeast of Little Rock. It was first settled in 1870, although some settlements had been made earlier on farms in the vicinity. It was incorporated in 1882. It is situated in an agricultural and lumbering region and the railroad facilities make it the trade centre for quite an extent of country. The chief manufactures are flour, lumber, cotton oil, machines, staves and headings, boxes and wagons. In addition to the manufactures there is considerable trade in grain, live-stock and some dairy products. The government is vested in a mayor and council, elected every two years. The city owns the water, lighting and sewerage systems. Pop. 7,123.

JONESBORO, Ga., city, county-seat of Clayton County, on the Central of Georgia Railroad, about 16 miles south of Atlanta. It is situated in a fertile agricultural region, but its nearness to Atlanta and lack of water power are hindrances to manufacturing. Its chief trade is in fertilizers, cotton and farm products. At this point, August 1864, was fought a hotly-contested battle with General Howard of Sherman's army, in command of the Federal

troops, and General Hardee of Hood's army, in command of the Confederates. Pop. 970. See JONESBORO, BATTLE OF.

JONESBORO, Battle of and Fall of Atlanta. After the battle of Ezra Church (q.v.), 28 July 1864, General Sherman, unable fully to invest Atlanta, drew the Fourteenth corps and Schofield's Army of the Ohio from the left and extended his lines on the right nearly to East Point, about six miles below Atlanta, the junction of the two railroads leading from the south, upon which the city and Hood's army depended for supplies. Hood made a corresponding movement to cover the roads, meeting Sherman's advance with strong, well-entrenched lines, and, 6 August, severely handling two of Schofield's brigades that had crossed Utoy Creek, killing and wounding over 300 men and taking two colors. To compel Sherman to relinquish his movement and raise the siege of Atlanta, Hood, 10 August, sent Wheeler with about 5,000 cavalry to operate upon his line of communication with Nashville. Wheeler moved promptly, struck and destroyed the railroad near Marietta, Calhoun, Adairsville and Dalton, captured over 1,000 head of beef-cattle and other supplies, and, after demonstrating on Dalton and Resaca, was driven into East Tennessee. Sherman had issued an order, 16 August, for a general movement on the 18th upon the West Point and Macon railroads, for the purpose of forcing Hood from Atlanta, but hearing of Wheeler's raid, he suspended the order and directed General Kilpatrick, with 5,000 cavalry, to move on the night of the 18th against the West Point and Macon roads and destroy them completely. Kilpatrick started from near Sandtown, crossed the West Point road at Fairburn and struck the Macon road a short distance north of Jonesboro, some 26 miles from Atlanta, where he encountered Ross' brigade of cavalry, which was driven through Jonesboro. But little of the railroad had been destroyed when Jackson's brigade of cavalry and an infantry brigade, coming up from the south, compelled Kilpatrick to retreat. Making a circuit, he again struck the railroad at Lovejoy's, about six miles south of Jonesboro, and encountered a Confederate force, through which he cut his way and reached Decatur, near Atlanta, on the 22d. As Sherman was satisfied that Kilpatrick had not greatly damaged the railroad, he renewed his order for the movement of the whole army. On the night of the 25th the siege of Atlanta was raised. The sick and wounded, spare artillery and surplus transportation were sent back to the Chattahoochee bridge; Stanley's Fourth corps drew out from the left and moved to the right, closing up with the Fourteenth near Utoy, and the Twentieth corps fell back to an entrenched position covering the Chattahoochee bridge and the hospitals. On the night of the 26th the Army of the Tennessee (General Howard) drew out, rapidly made a wide circuit and came up on the right of the Army of the Cumberland, under General Thomas, along Utoy Creek, facing south. The Army of the Ohio remained in position, now on the extreme left. On the 28th, making a general left wheel, pivoting on Schofield's army, both Thomas and Howard reached the West Point road extending from East Point to Red Oak and Fairburn, Schofield closing in upon the left of Thomas, but a short distance from the Confederate works covering the junction of the road at East Point. The next day was devoted to the railroad, of which nearly 13 miles was destroyed, and on the 30th the entire army moved eastward for the Macon Railroad. Schofield, on the left, approached it near Rough and Ready, and presented a bold front toward East Point; Thomas, in the centre, reached Couch's, on the Fayetteville and Decatur road, with but little opposition; and Howard, on the right, driving before him the enemy's cavalry, saved the bridge over Flint River after a sharp engagement; then, crossing part of his command, halted at night within half a mile of Jonesboro. On the morning of the 31st Howard, finding himself in the presence of a large force, disposed the Army of the Tennessee for battle and entrenched, Logan's Fifteenth corps on the left, Ransom's Sixteenth corps on the right and Blair's Seventeenth corps in rear of Logan's left. When Sherman began his movement on the night of the 25th S. D. Lee's corps of Hood's army covered the railroad from near Atlanta to a place nearly a mile south of East Point. Hardee's corps was on Lee's left, while Hood held Atlanta with Stewart's corps and the Georgia militia. Hood had been deceived; he knew of Sherman's earlier movement, but misinterpreted it as preliminary to a retreat across the Chattahoochee; but when undeceived on the 30th, he ordered Hardee with his own corps and Lee's to move rapidly to Jonesboro and crush Howard on the morning of the 31st. Hardee, who was near Rough and Ready, four miles below East Point, began moving about 4 P.M., followed later by Lee; and at noon of the 31st both were in Howard's front. At 3 P.M. Hardee attacked with Lee's corps and part of his own, under Cleburne, with the expectation of driving Howard into the river, and for two hours the fighting was severe, but Hardee was repulsed. Lee, who, on the Confederate side, bore the brunt of the fight, says: "The attack was a feeble one and a failure, with a loss to my corps of about 1,300 men killed and wounded." Hardee's entire loss was about 1,700. The Union loss was 179 killed and wounded, almost entirely of Logan's corps.

When Sherman heard the noise of this battle he was with Thomas, who, with Schofield, had reached and was destroying the road from Rough and Ready southward. Thomas and Schofield were marched to the assistance of Howard, and Kilpatrick was sent down the western bank of the Flint to strike the road south of Jonesboro. Davis' Fourteenth corps joined Howard's left at noon of 1 September, relieving Blair, who was disposed to support Kilpatrick. Lee's corps had gone, but Hardee's was still in position and entrenched, covering Jonesboro on the north. At 4 P.M. Davis charged Hardee's works and, after a hard fight, carried parts of them, capturing General Govan and the greater part of his brigade and two batteries of four guns each. Stanley and Schofield reached the field too late to take part in the engagement. During the night Hardee retreated to Lovejoy's Station, and next morning Sherman started in pursuit. The Union loss 1 September was 223 killed, 946 wounded and 105 missing. The Confederate loss is not fully known; of the three divisions engaged Cleburne's sustained a loss of 55 killed, 197 wounded and 659 missing.

There is no return of losses in the other two divisions.

The result of the battle of Jonesboro was the fall of Atlanta. Six hours before Hood heard of the result of Hardee's attack 31 August, he sent an order to Lee to return in the direction of Atlanta, to make a movement on Sherman's flank or to cover the evacuation of the city. Lee received the order at midnight, and was halted next morning about six miles from Atlanta. Meanwhile Hood had heard of the result of Hardee's attack; its "failure necessitated the evacuation of Atlanta." Lee was ordered to join Hardee, which he did on the 2d, and at 5 P.M. of the 1st Hood marched out of the city with Stewart's corps on the McDonough road; the Georgia militia was sent to Covington, and at night the rear-guard blew up some abandoned ammunition trains. Slocum's Twentieth corps entered the city on the morning of the 2d. Sherman received the news on the 4th, and, turning his back on the Confederates at Lovejoy's, marched his army to East Point and Atlanta.

The campaign for Atlanta, which began 6 May 1864, was marked by brilliant flanking movements on both sides, by almost uninterrupted skirmishing, growing at times to the dimensions of a battle, and by many heavy engagements, most of them of a desperate character. The Union losses in the entire campaign were 4,423 killed, 22,822 wounded and 4,442 missing, a grand aggregate of 31,687. The Confederate losses were 3,044 killed and 18,952 wounded. Add to this the number of prisoners captured, 12,938, makes a grand aggregate of 34,979. Consult 'Official Records' (Vol. XXXVIII); Cox, J. D., 'Atlanta' (New York 1882); Van Horne, J. B., 'History of the Army of the Cumberland' (Vol. II, Cincinnati 1875); id., 'Life of Gen. George H. Thomas' (New York 1882); Bowman, S. M., 'Sherman and His Campaigns' (Cincinnati 1865); Sherman, W. T., 'Personal Memoirs' (New York 1875); Century Company, 'Battles and Leaders of the Civil War' (New York 1887–88).

JONESVILLE, jönz'vĭl, Va., the scene of a Civil War action. On 1 Jan. 1864 Major Beeres, who had been operating with a battalion of the 16th Illinois Cavalry and a battery, near Cumberland Gap, attacked and drove a small Confederate cavalry force from Jonesville and occupied the place. On the morning of the 3d he was attacked by Gen. W. E. Jones' cavalry brigade and, after a spirited resistance, continuing nearly the entire day, in which he lost 10 killed and over 40 wounded, was finally surrounded and obliged to surrender. The Confederates reported that he surrendered 383 officers and men, 45 of whom were wounded, 3 pieces of artillery and 27 wagons. The Confederate loss was about 30 killed and wounded. Consult 'Official Records,' (Vol. XXXII).

JONGE, yŏng'e, **Johannes Cornelius de,** Dutch historian: b. Zierikzee, 9 March 1793; d. Zeeland, 11 June 1853. He was educated at Leyden and in 1831 succeeded Van Wijn, whose assistant he had been, as keeper of the Dutch archives. The most important of his historical works are 'Verhandeling over dem oorsprong der Hoeksche en Kabeljaauwsche twisten' (1817); 'Het derde Staat in de Statenvergaderingen' (1824); and 'Geschiedenis van het Nederlandsche Zeewezen' (1833-48; 2d ed., 1858). He also published a biography of Van Wijn in 1832.

JONGKIND, yŏng'kĭnt, **Johann Barthold,** Dutch landscape painter: b. Latrop, near Rotterdam, 1819; d. 1891. He received most of his instruction in art from Isabey of Paris, where he became acquainted with Zola, Corot and others of the élite of that period. His life was one of great privations and misery and during the last 30 years of his existence he was insane. He was equally proficient in oils, water color, etching, lithography or pencil. In etching he was one of the great lights of the century. He is well represented in the galleries of Amsterdam, in the Louvre and at Brussels. Consult Frantz, 'Johann Barthold Jongkind' (in *International Studio,* Vol. XXXVI, New York 1908–09).

JONGLEUR DE NOTRE DAME, zhŏñ'-glĕr dĕ nō'tr'dâm, **Le,** 'The Juggler of Our Lady,' an operatic miracle play by Jules Massenet, libretto by M. Lena; first produced at Monte Carlo on 18 Feb. 1902; in New York, 27 Nov. 1908. The story is based on a play by Anatole France entitled *Etui de Nacre,* 'The Mother-of-Pearl Box.' The scene is laid in Cluny; time, Middle Ages. A poor young street mountebank, Jean, amuses the villagers with his tricks in front of the monastery. The prior of the abbey threatens him with eternal punishment for his ungodly trade and advises him to enter the monastery, which the boy agrees to do. Anxious to do something to please the Holy Virgin, he bemoans his inability to the cook, Boniface, who tells him a fable, "The Legend of the Sage-Brush" and assures him that every sincere offering meets with divine acceptance. In the final scene the young novitiate stands before the altar in the chapel, having doffed his monk's garb and resumed that of his old trade. Standing before the image of the Virgin he performs his street tricks and is surprised in this occupation by the entrance of the prior and the monks, horrified at the act of sacrifice. They attempt to seize and throw him out when the figure of the Virgin assumes life and blesses him. He falls back dying and happy.

JÖNKÖPING, yön'chö-pĭng, Sweden, a town located at the southern end of Lake Wetter, about 170 miles southwest of Stockholm. The town is beautifully situated in a valley between Lake Wetter and two smaller lakes, and is backed by pine-clad hills. The chief building is the church of Saint Christina. The manufacturing industries of the town are of considerable importance; the largest single industry is match-making, the safety-matches made here being used throughout the world. There are also manufactures of machinery and arms, perfumes, cigars, snuff, paper and wood-pulp, etc. The maritime trade was greatly increased by the completion of the Göta Canal in 1832, connecting the Baltic and North seas (Göteborg with Stockholm), thus making Jönköping a seaport. The town's record goes back to legendary times; it is named in history in the early part of the 13th century; and in 1284 received its town charter. In 1357, 1439 and 1599 Parliament met here; in 1448 occurred the conference of the Swedish and Danish plenipotentiaries; in 1612 the town was destroyed

by order of Gustavus Adolphus to prevent it from falling into the hands of the Danes, but was soon afterward rebuilt; and in 1809 a peace treaty was signed here between Denmark and Sweden. Pop. 26,969.

JONQUIÉRES, zhŏn'kyār, Canada, town in Chicoutimi County, Quebec, 10 miles east of Chicoutimi, on the Quebec and Lake Saint John Railway. It contains sash and door factories, planing mills, pulp and paper factories, foundries and furniture factory. Pop. 2,354.

JONQUIL, jŏn'kwĭl. See NARCISSUS.

JONSON, Ben or Benjamin, English poet and dramatist, contemporary and friend of Shakespeare: b. 1573; d. 6 Aug. 1637. According to his conversations with Drummond, his father was a gentleman, who lost his estate under Queen Mary and then turned minister. Benjamin was born after his father's death, and his mother afterward married a bricklayer, an occupation in which Ben Jonson was engaged for some time, and with which he was frequently taunted by his enemies. He was educated at Westminster School, under the instruction of William Camden, whose scholarship and friendship he afterward praised in the highest terms. He proceeded to Cambridge but remained there for only a short time, later receiving the degree of master of arts from both universities "by their favour, not his studies." After his return to London, he seems to have worked for a time at his father's trade, then to have served as a soldier in the Low Countries, after which he returned to England, married, and by 1595, became an actor and playwright.

In 1598, his famous comedy 'Every Man in His Humour' was acted by the Lord Chamberlain's servants (Shakespeare's company). This play marks the full beginning of his dramatic career; it is the first of his long series of humoristic comedies, and is the first outcome of his life-long effort to infuse into the drama critical consciousness and painstaking art. In the same year Jonson quarreled with a well-known actor, Gabriel Spenser, and killed him in a duel on 22 September. Jonson escaped serious penalty by pleading benefit of clergy; and in the following year his 'Every Man Out of His Humour' was acted before the queen. Jonson's quarrelsome temper was apparently little abated by his recent imprisonment, for his 'Cynthia's Revels,' acted 1600, satirized Marston and Dekker, and 'The Poetaster,' 1601, provoked by retorts actual or intended, continued the attack in unmistakable terms. Dekker retorted in the same year with his 'Satironmastix, or the Untrussing of the Humourous Poet.' But this "war of the theatres" shortly subsided.

The accession of James I in 1603 brought a great improvement in Jonson's circumstances through the patronage of the court, exhibited in various employments, honors and eventually a pension. Henceforth he counted among his friends and patrons the most distinguished men of the time, and he was able to devote his prodigious energies to scholarship and poetry without leaning too heavily upon the stage for pecuniary aid. His immediate access to royal favor seems to have been maintained by his success in writing masks. These musical and spectacular entertainments assumed an elaborate form at the court of James, and Jonson at once became the chief literary purveyor to this fashion, a position which he maintained until his quarrels with Inigo Jones and the supersedence of the literary by the scenic elements of these shows put an end to his employment. The first half of the reign of James was also the time of Jonson's dramatic masterpieces. His tragedies, 'Sejanus' and 'Catiline' were acted in 1603 and 1611, and the greatest of his comedies came in the same period, 'Volpone,' 1605, 'The Silent Woman,' 1609, 'The Alchemist,' 1610, and 'Bartholomew Fair,' 1614. During the same years, Jonson was maintaining many friendships with scholars and poets, with Camden, Selden and Bacon, with Chapman, Beaumont, Fletcher and Shakespeare; and he was becoming the recognized chief of the wits whose gatherings have made the Mermaid Tavern famous in literature.

Jonson's life however, was by no means free from vicissitude. In 1605 he was imprisoned along with Marston and Chapman on account of a passage reflecting on the Scotch in 'Eastward Hoe,' a play on which they had collaborated. He had become a Roman Catholic in 1598, but after 12 years returned again to the Protestant faith. In 1613 he was in France as tutor of the son of Sir Walter Raleigh; and in 1618 he made a pedestrian expedition to Scotland. Here he was received with honors and banquets, and entertained for several weeks by the poet, William Drummond, at his seat, Hawthornden. Drummond's notes of his conversations with Jonson furnish us with most interesting and valuable records of Jonson's character and opinions, but it must be remembered that Jonson was talking with great freedom and with no idea of being reported, and that the reports were doubtless colored by the temper and prejudices of the reporter. Some of Jonson's weaknesses as well as his host's sourness of temper are to be found in Drummond's well-known postscript: "He is a great lover and praiser of himself; a contemner and scorner of others; given rather to lose a friend than a jest; jealous of every word and action of those about him (especially after drink, which is one of the elements in which he liveth); . . . he is passionately kynde and angry; careless either to gain or keep; vindictive, but, if he be well answered, at himself."

From 1616 to 1625 Jonson wrote no plays for the public stage but he wrote numerous masks and remained in high favor at court. After the death of James he seems to have fallen on unprosperous days; his occupation as a writer of masks ceased, and he turned again to the stage. His 'Staple of News' was acted in 1625, and 'The New Inn,' 1629, the latter proving an utter failure. He had suffered an irreparable loss in the burning of his library which included many manuscripts of his incompleted works as well as a notable collection of books in which he had a scholar's pride. Want and disease added to his troubles, and we have many appeals for aid addressed by him to his noble patrons. Fortunately these met with response and King Charles increased his annuity. The few plays and entertainments composed at this time give evidence of his failing powers; and give force to the conjecture that the beautiful pastoral drama, 'The Sad Shepherd,' left unfinished at his death, must have been written

at a much earlier date. In old age and sickness, however, Jonson held his place at the head of English men of letters. 'The Mermaid' had given place to 'The Devil Tavern,' and the old friends to a set of young disciples who sealed themselves "of the tribe of Ben." But his literary dictatorship was recognized outside of this intimate circle, and contemporary literature abounds in tributes of respect and admiration. The most famous of these is the brief epitaph carved on the stone that marks his grave in Westminster Abbey: "O rare Ben Jonson."

Jonson's character is better known to us than that of any of his literary contemporaries. Combative, arrogant, opinionated, outspoken and generous, he drank deeply, swore freely, learned his Latin thoroughly, wrote his plays carefully, went to prison for his friends and fought every fight to the finish. His failings were due to excess not weakness; his virtues were full-grown; whatever he did, he did vigorously, ponderously perhaps, but always wholeheartedly. To scholarship, to criticism, to poetry and the drama, he brought this vehement positiveness and this whole-hearted laboriousness. His personality is stamped on all his work, but in the enjoyment of some of its salient manifestations, one must not lose sight of the range and power and fineness of his literary achievement as a scholar, a critic, a translator and a lyric poet as well as a dramatist, nor the great importance of his 40 years of activity in the development of the drama and the history of literature. His non-dramatic work includes an 'English Grammar,' 'Discoveries,' a prose tract treating among other matters of literary and dramatic criticism, 'The Forest,' a collection of his epigrams and other poetry, and 'Underwoods,' another collection of minor poems and translations. His dramatic work comprises masks, tragedies and comedies, three forms that Jonson kept distinct.

His influence upon the drama was in large part that of a critic and a reformer. He began his important work at a time when, through the efforts of Shakespeare, Marlowe, Lyly and others, the popular drama had already attained eminence as a form of literature; and Jonson was ardent to advance and secure this eminence. In the preceding drama he saw much that was crude and absurd, and from the start he urged an abandonment of the incongruities of the chronicle plays and the romantic comedies, and the adoption of fixed rules and more regular models. In the reliance of the dramatists upon the applause of unlettered audiences, he saw a menace to the highest development of the drama; hence he constantly advocated the appeal to the taste of the more judicious through an elevated purpose and a conscientious art. Recognizing that the English drama had already attained greatness under conditions so different from those of antiquity that they forbade the rigid application of the precedents of the classic drama, he nevertheless believed that improvement could be secured by intelligent adoption of classic rules and models. He insisted therefore upon the discrimination between tragedy and comedy and the recognition of the purpose and function of each species according to the precepts of Aristotle, protesting pedantically enough, not only against the incongruities of the old histories but also against such combinations of comedy and mask as Shakespeare's 'Tempest.' A more coherent construction and the application of the unities of time and place, so far as the English stage would permit, were other articles of his theory which he supported by precept and practice. Still farther, he contended that characterization should not depend on an impossible plot or a hap-hazard collocation of heroism, sentiment and nonsense, but upon a careful representation of certain types as illustrative of human motive, such as the tyrant or the conspirator in tragedy, or the braggart soldier, the gull or the cheat in comedy. In opposition to the extravagant romanticism that had prevailed up to 1600, Jonson stood for a comedy that should attempt the realistic portrayal of manners. In dramatic criticism and practice Jonson was consequently at most points on the other side from Shakespeare, though he bore splendid testimony to his appreciation of Shakespeare's friendship and genius.

His masks and entertainments, so famous in their day, have little interest now, except as they illustrate the curious literary fashion, or as they exhibit Jonson's charming lyrics. Of the 34 complete, some of the most notable are, 'Hymenæi,' 'The Mask of Queens,' 'The Penates,' and 'The Metamorphosed Gypsies.' His two tragedies, 'Sejanus' and 'Catiline,' are thoroughgoing attempts to present a scholarly and accurate view of history, a penetrating study of historical characters, and to retain as much as possible of classical decorum while conforming in the main to the form of tragedy established by his great Elizabethan predecessors. But his genius found its best field in comedies. Though modeled on the comedies of Plautus and Terence, they fulfil his promise to show an image of his own times, its fads and follies, or "humours"; and though their plots are constructed overelaborately, their artificiality is redeemed by an abundance of humor. The 'Alchemist' with its extraordinarily skilful structure, and 'Bartholomew Fair' with its broad and lively presentation of the London of the day are perhaps the greatest English masterpieces of the strict comedy of manners. Jonson's example turned comedy for a while from romantic to realistic, and satirical themes and treatment; and the influence was potent at least into the 18th century. In humor and the delineation of character, Jonson ranks first of English dramatists after Shakespeare.

His plays, excluding masks, are 'Every Man in His Humour,' 'Every Man Out of His Humour,' 'Cynthia's Revels,' 'The Poetaster,' 'Sejanus,' 'Volpone,' 'Epicæne,' 'The Alchemist,' 'Catiline,' 'Bartholomew Fair,' 'The Devil Is An Ass,' 'The Staple of News,' 'The New Inn,' 'The Magnetic Lady,' 'A Tale of a Tub,' 'The Case is Altered' (unavowed by Jonson and perhaps an early play), 'The Sad Shepherd' (incomplete), 'The Fall of Mortimer' (a fragment). See ALCHEMIST, THE; VOLOPONE; DRAMA; ENGLISH LITERATURE — ELIZABETHAN DRAMA.

Bibliography.— Jonson edited a folio of his works which appeared in 1616; a second folio in 1640. The standard edition is that of Gifford, 1816 (9 vols., frequently reprinted). The separate plays have often been reprinted, and recently with extended introductions and notes in 'Yale Studies in English.' For criticism

consult Baskerville, C. R., 'English Elements in Jonson's Early Comedy' (University of Texas Bulletin, Humanistic Series No. 178, Austin, Tex., 1911); Birck, Paul, 'Literarische Anspielungen in den Werken Ben Jonson's' (Strassburg 1908), with bibliography; Dryden, John, 'Essay on Dramatic Poesy' (London 1668); Fleag, 'A Biographical Chronicle of the English Drama' (ib. 1891); Gifford, W., 'Memoirs of Ben Jonson,' in his 'Works' (Vol. I, London 1872); Kerr, Mina, 'Influence of Ben Jonson on English Comedy, 1598–1642' (Philadelphia 1912); Koeppel, 'quellen-Studien zu den Dramen Ben Jonsons' (Leipzig 1895); Laing, (ed.), 'Jonson's Conversations with Drummond' (London 1842); Schelling, F. E., 'Ben Jonson and the Classical School' (New York 1898); Soergel, 'Die englischen Maskenspiele' (Halle 1882); Swinburne, A. C., 'Study of Jonson' (London 1889); Symonds, J. A., 'Life of Jonson' (ib. 1886); Thorndike, A. H., "Ben Jonson" (in 'Cambridge History of English Literature,' Vol. VI, Cambridge 1907–10); Ward, 'History of English Dramatic Literature' (London 1899); Woodbridge, 'Studies in Jonson's Comedy.'

ASHLEY H. THORNDIKE,
Professor of English, Columbia University.

JOPLIN, Mo., city and a county-seat of Jasper County, 155 miles south of Kansas City, on the Missouri, Kansas and Texas, the Southwestern Missouri, the Southern Pacific and other railroads. The city contains several noteworthy buildings, including the Federal building, the Carnegie library, municipal market house, police building, the opera house and the courthouse. It has two business colleges, a high school and several public and parochial schools. Joplin is a distributing centre for a wide agricultural area and has extensive mining interests, being the centre of the zinc and lead industries of southwestern Missouri. The city's industrial establishments include smelting, white lead and paint works, foundries and machine shops, iron works, wagon and cooperage factories and flour mills. There are three national and four State banks and the value of the taxable property is $33,000,000. The general revenues amount to about $240,000 annually. Joplin adopted the commission form of government in 20 April 1914. The city owns one of the lighting plants. Joplin was settled about 1870 and was incorporated in 1873. Pop. 45,000.

JOPPA. See JAFFA.

JORAM, or JEHORAM, name of two Hebrew kings, one of Israel (852–842 B.C.) and the other of Judah (849–842 B.C.). (1) JEHORAM, king of Israel, was the second son of Ahab, and succeeded his brother Ahaziah. He was not sincere in his transient repression of Baal worship, and was rebuked by Elisha. He joined with the king of Judah in a war with the Moabites. In his reign Benhadad, king of Damascus, invaded Israel, and besieged Samaria, but retreated to meet a hostile invasion in his own country. In a battle with Hazael, king of Syria, Jehoram was wounded and retired to Jezreel, where he was slain by Jehu whom Elisha had anointed king over Israel, thus fulfilling Elijah's prophecy (1 Kings, xxi, 21–29).

(2) JORAM, king of Judah, eldest son and successor of Jehosaphat, regent in 854 on his father's alliance with Ahab against the Assyrians (2 Kings i, 17; iii, 1; viii, 16), then king in the 23d year of his father's reign (849), ruling eight years. After his father's death, he slew his six brothers and other men of influence, and led a life of wickedness. The Edomites revolted, also Libnah and Jerusalem was captured by invading Philistines and Arabians. Jehoram died of an incurable disease, as foretold by the prophet. He was buried in the city of David, but not in the sepulchres of the kings (2 Chron. xxi, 19, 20).

JORDAENS, Jacob, yā'kōb yōr'dāns, Flemish painter: b. Antwerp, 19 May 1593; d. there, 18 Oct. 1679. From his early boyhood in 1607 he was the pupil of Van Noort, whose daughter he afterward married, and in 1615 was made master in the Guild of Saint Luke at Antwerp. He was the most eminent painter of the Flemish school next to Rubens to whom, however, he was inferior in force and conception. The most renowned among his religious pictures are 'The Last Supper' in the Antwerp Museum; and 'The Martyrdom of Saint Apollonia' in the church of the Augustines, Antwerp. Consult the monograph by Max Rooses (1908).

JORDAN, Camille, French politician: b. Lyons, 11 Jan. 1771; d. Paris, 19 May 1821. He was a pupil of the Oratorians at Lyons and when still young became imbued with Royalist principles, later developing into an active opponent of the French Revolution. When only 20 years of age he published a pamphlet satirizing the Constitutional Church, entitled 'Histoire de le conversion d'une dame parisienne' (1792). When Lyons fell in October 1793, Jordan was proscribed by the Directory for his participation in the insurrection and fled to Switzerland, subsequently passing six months in England. In 1796 he returned to France and in 1797 was sent by Lyons to the Council of Five Hundred. In the Revolution of 4 Sept. 1797 Jordan escaped to Basel and later went to Germany where he met Goethe. In 1800 he returned and in 1802 exposed the schemes of Bonaparte in a pamphlet 'Vrai Sens du Vote National pour le Consulat à Vie.' From that time till 1814 he devoted his time in retirement to literature, but at the Restoration was made a councillor of state by Louis XVIII, and from 1816 till his death represented Ain in the Chamber of Deputies. Besides the above mentioned works he wrote 'Lettre à M. Lamourette' (1791); 'La Loi et la Religion Vengées' (1792); 'Adresse à ses Commettants sur la Révolution du 4 Septembre 1797' (1797, translated into English by J. Gifford, London 1798); 'Sur les Troubles de Lyon' (1818); 'La Session de 1817' (1818). A collection of his 'Discours' appeared in 1818. Consult Boubée, R., 'Camille Jordan à Weimar — Lettres Inédites'. (in *Correspondant,* Vol. CCV [U. S. Vol. CLXIX], p. 718, Paris 1901); Sainte-Beuve, C. A., 'Jordan et Madame de Staël' (in *Revue des Deux Mondes,* Paris 1868).

JORDAN, jôr'dan, **Conrad N.,** American financier: b. New York, 20 April 1830; d. there, 26 Feb. 1903. He entered a printing office, but soon exchanged this for a banking establishment, was cashier of a New York bank in 1864–80, and in 1880–84 was treasurer of the New York, Ontario and Western Railroad. In

1885–87 he was Treasurer of the United States, and introduced in the accounts of the Treasury a revised form of debt and cash statements by which the exact condition of the Treasury might be readily ascertained. He was an organizer of the Western National Bank of New York and for a time its president. In 1893 at the recommendation of all important New York banks, he was appointed Assistant United States Treasurer in New York, and this post he held until his death. He rendered important services during the monetary crisis of 1893–95.

JORDAN, David Starr, American educator and naturalist: b. Gainesville, N. Y., 19 Jan. 1851. He was graduated from Cornell University in 1872 and was instructor in botany there 1871–72. He was professor of natural history at Lombard University, Illinois, 1872–73, and taught the same subject in the Indianapolis High School, 1874–75. From 1875 to 1879 he was professor of biology at Butler University, Indianapolis; professor of zoology at Indiana University 1879–85, and president of the last named institution 1885–91. From 1891 to 1913 he was president of Leland Stanford Junior University, and from 1913 chancellor, the office being divided to enable him to undertake in Europe and America work in the interest of international conciliation and peace. In 1906–09 he was International Fish Commissioner for Canada and the United States, having the purpose of the unification of the fishing laws of the boundary waters. Since 1909 he has been director of the World Peace Foundation, and has spoken and written largely in opposition to the war system of the world. Beside some 400 scientific monographs and reports, among which may be named 'Synopsis of the Fishes of North America' with C. H. Gilbert (1882); enlarged in 1896 with the aid of B. W. Evermann to 'The Fishes of North and Middle America'; and 'Report of Fur Seal Investigations'; he has published 'Science Sketches' (1896); 'Footnotes to Evolution' (1898); 'Imperial Democracy' (1899); 'Evolution and Animal Life' (1908); 'Animal Life' (1900); 'The Heredity of Richard Roe' (1909); 'The Blood of the Nation' (1900); 'The Human Harvest' (1907); 'War and the Breed' (1915); 'Ways to Lasting Peace' (1916); 'The Strength of Being Clean' (1900); 'The Stability of Truth' (1909); 'The Fate of Iciodorum' (1908); 'Guide to the Study of Fishes' (1908); 'Food and Game Fishes of North America,' with B. W. Evermann (1908); 'War and Waste' (1912); 'Fish Stories' (1910), etc. He was president of the California Academy of Sciences at intervals from 1896 to 1909, and has been in charge of the United States Fish Commission investigations in the Pacific Ocean from 1901–04 and of the salmon investigations for Alaska 1903–04.

JORDAN, Dorothea, English actress: b. Waterford, Ireland, 1762; d. probably at Saint Cloud, near Paris, 3 July 1816. Her mother was an actress whose husband is said to have been an army captain. Dorothea made her first stage appearance in Dublin in 1777 as Phœbe in 'As You like It.' In 1782 she appeared at Leeds and subsequently toured the English provinces. In 1785 she appeared at Drury Lane in 'A Country Girl.' She was most successful and remained at Drury Lane until 1809. In 1811 she appeared at the Covent Garden, excelling in comedy rôle. She retired from the stage in 1815. Her private life was a scandal. She had four children by Sir Richard Ford, and for several years was known as Mrs. Ford. In 1790 she became the mistress of the Duke of Clarence, afterward William IV, by whom she had 10 children, who were ennobled under the name of FitzClarence. William IV erected a statue of her in 1831. Consult Boaden, James, 'Life of Mrs. Jordan' (1831) and Tate Wilkinson, 'Memoirs and Amorous Adventures by Sea and Land of King William IV' (1830).

JORDAN, Elizabeth Garver, American journalist: b. Milwaukee, Wis., 9 May 1867. She was educated at the convent of Notre Dame, Milwaukee, was for 10 years on the editorial staff of the New York *World*, assistant editor of the *Sunday World* for three years and editor of *Harper's Bazaar* from 1900 to 1913, when she became literary adviser to Harper and Brothers. She is a member of the National Institute of Social Sciences and regent of the National Woman Suffrage Association. She has published 'Tales of the City Room' (1898); 'Tales of the Cloister' (1901); 'Tales of Destiny' (1902); 'May Iverson, Her Book' (1904); 'Many Kingdoms' (1908); 'May Iverson Tackles Life' (1913); 'May Iverson's Career' (1914); 'The Lady from Oklahoma,' comedy in 1911, 1912 and 1913, also in book form; 'Beauty is Skin Deep,' play produced in 1913 and 1914; 'Lovers' Knots' (1916); 'The Story of a Pioneer,' with Anna Howard Shaw; 'The Whole Family,' with Henry James, William Dean Howells and others, and numerous short stories to leading American and English magazines.

JORDAN, John Woolf, American librarian and editor: b. Philadelphia, 14 Sept. 1840. He was graduated at Nazareth Hall in 1856 and since 1888 has edited the *Pennsylvania Magazine of History and Biography*. He is also librarian of the Historical Society of Pennsylvania and vice-president of the Colonial Society of Pennsylvania since 1895. He is the author of 'Narrative of John Heckewelder's Journey to the Wabash in 1792'; 'Bethlehem during the Revolution'; 'The Military Hospitals at Bethlehem and Lititz during the Revolution'; 'Bishop Spangenburg's Notes of Travel to Onondaga in 1746'; 'Notes of Travel of John Heckewelder to Ohio, 1797'; 'Franklin as a Genealogist' (1895). In 1902 he received the degree of LL.D. from Lafayette College.

JORDAN, Jules, American composer: b. Willimantic, Conn., 10 Nov. 1850. He first became known musically as a tenor singer, afterward as a conductor and finally as a composer. Among his compositions are the romantic opera, 'Rip Van Winkle,' produced in Providence 1897, and several cantatas, including 'Barbara Frietchie' and 'Wind Swept Wheat'; and many sacred and secular songs.

JORDAN, Louis Henry, Canadian clergyman: b. Halifax, Canada, 27 July 1855. He was educated at Dalhousie University, Princeton, Oxford, Marburg, Leipzig and Berlin. In 1882–85 he was minister of Saint Andrew's, Halifax; in 1885–90 minister of Erskine

Church, Montreal; in 1894–1900 at Saint James Square Church, Toronto. From 1887 to 1889 he was lecturer on church polity at the Montreal Theological College, was special lecturer on comparative religion at the University of Chicago, in 1902. He has published 'Comparative Religion: Its Genesis and Growth' (1905); 'Comparative Religion: A Survey of its Recent Literature' (1906; 1910; 1914); 'Comparative Religion: Its Methods and Scope' (1908); 'The Study of Religion in the Italian Universities,' with Labanca (1909); 'Modernism in Italy: Its Origin, its Incentive, its Leaders and its Aims' (1909); 'Comparative Religion: Its Adjuncts and Allies' (1915); contributions to the *Review of Theology and Philosophy, the Expository Times, Hilbert Journal, Princeton Theological Review, Biblical World,* etc.

JORDAN, Marie Ennemond Camille, French mathematician: b. Lyons, 1838. In 1860 he was graduated at the École des Mines of Paris; in 1861 became engineer of mines and in 1885 became chief engineer. In 1872 he became a teacher of mathematics, succeeding Liouville in 1883 as professor at the College de France. He made several important discoveries in geometry and analysis and is perhaps the world's greatest teacher of *n*-dimensional geometry. His memoirs are over 100 in number and have appeared in all the principal mathematical journals of Europe. He wrote 'Théorie des substitutions et des équations algébraiques' (1870); 'Cours d'analyse de l'École Polytechnique' (3 vols., 1882–87; 3d ed., 1909).

JORDAN, Thomas, American soldier: b. Luray, Va., 30 Sept. 1819; d. New York, 27 Nov. 1895. He was graduated from West Point in 1840; and distinguishing himself in the Mexican War, was promoted captain in March 1847. He was stationed on the Pacific coast in 1856–60, during which time he introduced steam navigation above the Dalles, on the Columbia River. He served in the Confederate army during the Civil War and was promoted brigadier-general for gallantry at the battle of Shiloh. In 1869 he went to Cuba, where he was made chief of the general staff of the insurgent army and soon afterward commander-in-chief of the revolutionists, winning a battle at Guarmaro, in January 1870. In the following year he resigned and settled in New York, where he became editor of *The Financial and Mining Record.* He published 'Campaigns of Lieutenant-General Forrest' (with J. B. Pryor, 1868).

JORDAN, William George, American journalist: b. New York, 6 March 1864. He was graduated at the College of the City of New York; became editor of *Book Chat* in 1884, later became editor of *Current Literature,* became managing editor of the *Ladies' Home Journal* in 1897 and was editor of *The Saturday Evening Post* in 1898–99. In 1899–1905 he was editor and vice-president of the Continental Publishing Company, and in 1905–06 edited *The Search-Light.* In 1907 he proposed the organization of the governors of the country as a house of governors to work for uniform legislation between the States; this led to the call by President Roosevelt of a convention of the governors at Washington in 1908, at which a committee was appointed to arrange for a permanent organization, the first conference being held in January 1910. He has published 'Mental Training by Analysis, Law and Analogy'; 'Mental Training a Remedy for Education' (1896); 'The Kingship of Self Control' (1899); 'The Majesty of Calmness' (1900); 'The Power of Truth' (1902); 'The House of Governors' (1907); 'The Crown of Individuality' (1909); 'The Power of Purpose' (1910); 'Little Problems of Married Life' (1910); and 'The Wood-Carver' (1915).

JORDAN, United States of North America, a river in the State of Utah which drains Utah Lake and also the north central part of the State, follows a northerly course and flows into Great Salt Lake after a course of 40 miles. It is utilized as a feeder for irrigation systems.

JORDAN, the largest river of Palestine and one of the most celebrated in the world, called Esh-She-riah or Esh-Sheriah-el-Kebir by the Arabs. It rises from three main sources at the foot of Hermon, and these upper streams unite in Lake Huleh, the ancient Waters of Merom. From this point it sinks with a rapid current in a narrow rocky bed below the level of the sea, and falls after a course of nine miles into the Lake of Galilee. Shortly after leaving the south end of this lake it enters a broad valley called by the Arabs Ghôr, and in the Bible "the plain"; and continuing a singularly crooked course of about 65 miles direct distance, or 200 including windings, falls into the north end of the Dead Sea, having received the Zerka or Jabbok and numerous smaller affluents. The Ghôr expands at Bethlehem and Jericho into a wide plain, but elsewhere is from three to five miles across. The upper part of the valley of the Jordan is hilly, arid and barren, but it becomes more level and fertile as it approaches the Zerka. The river is muddy and full of small fish. In the dry season it is shallow, with an average width of from 30 to 50 yards. At its mouth it is about 180 yards broad and about three feet deep. It is subject to great inundations during the winter season. The climate is tropical. Cereals, chiefly barley, are raised in some parts of the river's valley. The valley of the Jordan forms one of the most remarkable depressions in the world, the Dead Sea being 1,312 feet below sea-level, and the total fall of the river being about 2,300 feet. Molyneux and Lynch made explorations of the river in 1847–48. Consult 'Official Report' (Washington 1852); 'Survey of Western Palestine' (London 1859); Smith, 'Historical Geography of the Holy Land'; Molyneux (in the *Journal* of the Royal Geographic Society 1848); Lynch, 'Narrative of the United States Expedition to the River Jordan and the Dead Sea' (1849); McGregor, 'Rob Roy on the Jordan' (1870); Costello, 'Gospel Story'; Macmillan, 'Guide to Palestine and Egypt'; Thomas, 'Two Years in Palestine.'

JORDANES, jôr-dā'nēz, historian of the Gothic nation; flourished about the middle of 6th century; by birth a Goth, or both of Alan and of Gothic descent. He was first a notary, but afterward became a monk, and is supposed by some to have been made bishop of Croton, in Italy, but of this there is no certain evidence. He wrote two historical works in the Latin language; the first 'De Regnorum ac Temporam Successione,' is a short compendium of the

most important events in history from the creation to A.D. 552; but the work is valuable only from its accounts of several barbarous northern nations. His other work, 'De Getarum Origine et Rebus Gestis (concerning the origin and deeds of the Goths), has obtained great renown, chiefly as our only source of information about the Goths and other barbarian tribes, except when they are casually mentioned by some Greek or Latin historian. The work is, however, full of inaccuracies, both of time, place and person; and it is evidently based upon, or copied from, the 12 lost books of the Roman senator Cassidorius. There are many editions of both works, the best being Mommsen's in 'Monumenta Germaniæ Historica, Auctores Antiquissimi' (Vol. V, Berlin 1882).

JORIS, yō'rĭs, or **JORISZOON,** yō'rĭs-zōn, **David,** leader of the Anabaptists: b. Bruges, 1501; d. Basel, 25 Aug. 1556. In 1524 he settled in Delft as a glass painter; sometime afterward he embraced the Reformed faith and for an attack upon a religious procession was banished for three years in 1528. He returned to Delft in 1536 and established a sect. He pretended to be the Messiah, denied the Resurrection and held various heretical opinions. The sect existed in Holland nearly a century after his death. In 1544 he fled to avoid persecution and lived quietly at Basel under the pseudonym of John of Bruges, as a member of the Reformed Church, unsuspected by the magistracy of being the notorious sectary. In 1559 the truth came out, whereupon his body was exhumed and burned. See ANABAPTISTS.

JORN UHL, yĕrn-ool, by Gustav Frenssen is one of those novels, found in the literature of every nation, in which not a man but a well-established national type is the hero. The author who makes such a type the central figure of a romantic story is sure of popular approval in just the proportion in which his character is true to life and recognizable, emphasizing the universal in the portrait, distinguishing the typical, shading down the personal. Gustav Frenssen was peculiarly successful in his attempt to create, through Jorn Uhl, the picture of the young German peasant-farmer, industrious, idealistic, imaginative, doing his duty not only with patience but with high courage, loving the land, but loving the stars more, and with a vision of something even beyond the stars. Contrasted with him are the equally life-like figures of his drunken, pompous, spend-thrift father, his drunken, idle, thieving older brothers, who waste the land beyond all power of Jorn Uhl's labor to redeem it. Together they are the personification of a German peasant family a generation ago. The straightforward, provincial simplicity of Frenssen's style is thoroughly in harmony with the story and the character of the hero and deepens the sense of reality. It undoubtedly contributed to the almost unprecedented popularity of the book in Germany, a success which has never been duplicated outside. One chapter of the book, detailing the drafting of the young peasant for war service and his experience in the battle of Gravelotte, has the quality of permanent international literature, and has been translated for use in schools; the rest of the story, besides its undoubted value as pure fiction, is interesting principally for that very quality of sincere but limited nationality which has narrowed its audience to Germany.

EDITH J. R. ISAACS.

JORTIN, John, English clergyman of French Huguenot parentage: b. London, 23 Oct. 1698; d. Kensington, 5 Sept. 1770. He was educated at the Charterhouse School, and at Jesus College, Cambridge, where he held a fellowship 1721–28. He was ordained in 1723–24. At first, 1723–26, he held the living of Sevanesey near Cambridge, but resigned and removed to London and became the preacher in a chapel in New street, 1731–47. He was editor of a magazine *Miscellaneous Observations upon Authors Ancient and Modern* (1731–33); preacher in a chapel in Oxenden street (1747–50); assistant to Dr. Warburton at Lincoln's Inn (1747–50); rector of Saint Dunstans in the East, 1751 until his death; also vicar of Kensington, prebend of Saint Paul's and chaplain to the bishop of London from 1762 and archdeacon of London from 1764. He was Boyle lecturer in 1749. He was considered one of the great scholars of the time credited with liberal views. He was the author of a notable volume of Latin poems, and his principal works include 'Truth of the Christian Religion' (1746); 'Remarks Upon Ecclesiastical History' (5 vols., 1751–73); 'Six Dissertations' (1755); 'Life of Erasmus' (2 vols., 1758–60); 'Sermons' (7 vols., 1771–72); 'Tracts, Philological, Critical and Miscellaneous' (2 vols., 1790). Consult Disney, N., 'Memoirs of the Life and Writings of John Jortin' (1792); also the memoirs prefixed to the 'Sermons,' 'Tracts' and 'Remarks.'

JORULLO, hō-rool'yō, a volcano of Mexico in the state of Michoacan, 160 miles southwest of Mexico, and 80 miles from the Pacific. The district had continued undisturbed from the discovery of the New World when, in June 1759, earthquakes occurred, followed 29 September by one more violent. On the line of a chasm which was made, six volcanic cones were formed, the loftiest, Jorullo, 1,600 feet above the plain. The total height of the volcano above the sea is 4,265 feet. It shows but few signs of activity at present.

JOSÉ, hō-sā'. The 'José' ('Joseph,' first published at Madrid 1885) of the contemporary Spanish novelist, Armando Palacio Valdés (born 1853) is not one of the more ambitious of his works. An interesting novelette of manners, portraying actual conditions of life in the northern maritime districts of Spain, it tells in simple and direct fashion of the tribulations encountered by two lovers of humble station, whose union is thwarted for a while by the machinations of the girl's avaricious and heartless mother and by the operations of a national law which gives parents a tyrannical control over their children contemplating matrimony. The characters are presented in vivid colors on a background of sea and shore, and even the figure of the decayed gentleman, the modern Don Quixote, here called Don Fernando de Meira, escapes the charge of conventionality by conforming so naturally to type. One might wish, however, that the author had not seen fit to make Fernando's end so wretched; perhaps, notwithstanding, he felt it imperative to drive home the lesson that for the melancholy aberra-

tions of hidalgism a corrective is not easily found. In some of the scenes in which the fishwives play a part with their wordy quarrels and hair-pulling exercises, Valdés must perforce descend to the vulgar; but he realizes the danger of the situation and never ventures too far into repugnant detail. Taking him all in all, Valdés, as the author of this successful little idyll and of about a score of novels of the acknowledged worth of his 'Marta y María,' his 'Majos de Madrid' and his 'Alegría del Capitán Ribot,' has proved himself a talent of high order among our modern writers of prose fiction and has well merited the generous meed of praise accorded him by so competent a judge as Mr. Howells.

JEREMIAH D. M. FORD.

JOSEFFY, yō-sĕf'ĭ, **Rafael,** Hungarian-American pianist: b. Miskolcz, Hungary, 1853; d. 1915. He was a pupil of Moscheles at the Leipzig Conservatory and of Tausig at Berlin, won distinction in a concert tour of Holland and Germany, and later appeared with large success throughout Europe and the United States. For several years he was a professor in the National Conservatory at New York, where he resided from about 1880. He was a member of the faculty of the National Conservatory of Music, New York, from 1885 to 1906. As a virtuoso he evinced great facility and technical finish, and won particular recognition through his interpretations of Chopin. His compositions include 'Ungarisches Album' (6 works for pianoforte); 'Die Mühle' (op. 23), a 'Marche Turque,' and 'Conzert-Studien nach Chopin.' He is also the author of the popular work 'School of Advanced Piano Playing' (1892).

JOSEPH, a son of the patriarch Jacob by his favorite wife, Rachel. His father's preference for him and his own relation of dreams which predicted his future exaltation above those of his household drew upon him the envy of his brothers, who sold him to Ishmaelitish and Midianite slave-dealers, by whom he was sold to Potiphar, a captain of the guard in Egypt. The story of his condemnation to prison on the false accusation of Potiphar's wife, of his release and subsequent elevation to the position of vice-regent of Egypt and the final settlement there of his father and brothers is related in the book of Genesis. Authorities still differ as to the period in Egyptian history to which Joseph's life belongs, but the majority agree in placing it under the Hyksos or shepherd kings.

JOSEPH, North American Indian chief of the Nez Percé tribe: b. about 1830; d. Nespelim, Colville Reservation, Wash., 21 Sept. 1904. Of remarkably fine physical build and endowed with superb mental gifts, Joseph (Hinmaton-Yalatkit) was one of the most remarkable men of his race. In 1863 he refused to recognize the treaty by which the whites obtained entry to the Wallowa Valley, the ancient home of his people, in northeastern Oregon. Many of the Indians sympathized with him and continued to dwell there in spite of frequent bickerings with the white settlers. The government undertook to remove these Indians to the Lapwai Reservation in Idaho, and things were proceeding peacefully when outrages by the whites drove the Nez Percés to fury and caused them to attack the settlements. A declaration of war ensued and Joseph skilfully led his people in a memorable retreat to within 50 miles of the Canadian border, when his retreat was cut off by fresh troops and on 5 Oct. 1877 he was forced to surrender. His skill won praise from his conquerors, General Howard, Colonels Miles, Sturgis, etc. The promises made to Joseph and his people were ignored, and the Indians, numbering 431, were removed to Fort Leavenworth, Kans., and afterward to Indian Territory, where they remained for many years, always yearning for the mountains and valleys of Idaho. In 1883 the government permitted a party of 33 women and children to go back to their old home and in 1884, 118 others were allowed to go. Joseph, however, and 150 others were not permitted to return to Idaho but were sent to Colville, Wash. Chief Joseph visited President Roosevelt and General Miles at Washington in 1903. In his later years he had become reconciled to civilization and encouraged education among the children of his tribe.

JOSEPH, Father (FRANÇOIS LECLERC DU TREMBLAY), French propagandist and statesman: b. Paris, 4 Nov. 1577; d. Rueil, 18 Dec. 1638. He belonged to a distinguished family, traveled much in his youth, and served in the army under an assumed name, but in 1599 he entered the Capuchin order, in which he subsequently attained a high position. Attracting the attention of Cardinal Richelieu, in 1611, that statesman made Father Joseph his secretary and confidential adviser. In this capacity, and as provincial of his order in France, he wielded immense influence and power for many years and ably seconded the cardinal's efforts to convert the Huguenots. He was eager for the defense of Christianity against the Turks and advocated a crusade against them. He left several volumes of memoirs which are still in manuscript in the Paris Library. Consult O'Connor, R. F., 'His Grey Eminence, the true Friar Joseph: An Historical Study' (Philadelphia 1912).

JOSEPH, Saint, the husband of Mary the mother of Jesus Christ, was a descendant of the house of David, born at Bethlehem, but resident at Nazareth, where he practised the trade of a carpenter. Tradition and art represent him as an old man at the time of Christ's birth and he is said to have died before the beginning of Christ's public ministry. His day in the Roman Catholic calendar is 19 March.

JOSEPH I, emperor of Germany: b. Vienna, 26 July 1678; d. 17 April 1711. He succeeded his father, Leopold I, and was employed for nearly the whole of his reign in war. With England and Holland he continued the war against France, to seat the Archduke Charles on the throne of Spain. The great victories gained by the allies under Marlborough in the Low Countries and Prince Eugene on the Rhine made the reign of Joseph especially noteworthy. He was equally triumphant in Italy and Hungary; in the latter kingdom driving the revolted Bagotski from the country and forcing him to seek safety in Turkey; while in the Italian peninsula great cities from Mantua to Genoa were laid under heavy contributions.

JOSEPH II, German emperor, oldest son of Francis I and Maria Theresa: b. Vienna, 13 March 1741; d. there, 20 Feb. 1790. He was

elected king of the Romans in 1764, and on the death of his father, 1765, German emperor. His mother declared him coregent in the hereditary states of the house of Austria and gave him the command of the army; but the real authority remained in her hands. In the earlier part of his reign he employed his time in traveling and becoming acquainted with his estates. He visited his sister, Marie Antoinette, at Paris, and Catherine of Russia in 1780. It was also in those years that he began his intimacy with Frederic II of Prussia, resulting later in the partition of Poland. In November 1780 Maria Theresa died and Joseph came into the possession of full dominion over his hereditary states. He allowed a greater freedom of the press, put an end to the connection between Rome and the religious orders, diminished the pensions, placed the Jews on a better footing, abolished bondage, suppressed all nunneries and many monasteries, particularly those of the purely contemplative orders. All branches of the government, public education, the police and the peasantry were reformed. By a new code of laws capital punishments were abolished. On 9 Feb. 1788 he declared war against the Turks. By the defeat at Lugos (20 Sept. 1788) the army was obliged to retreat, but in the following year fortune favored the Austrian arms and Belgrade surrendered. With the tax law, introduced in November 1789, nobility and peasantry showed themselves equally dissatisfied and the signal was given for open rebellion. The Netherlands declared themselves independent and expelled the imperial forces from all the provinces, and Luxemburg alone remained in the possession of the imperial troops. The Hungarians also rebelled and demanded the restoration of their ancient rights and constitution. Joseph, in January 1790, declared all the acts of his government in that country revoked, even to the edict of toleration (22 June 1781). Joseph was a man of considerable ability, but arbitrary and despotic. Whatever his own reflections or his knowledge of other countries showed to be useful he wished to introduce. But he did not sufficiently consider that he had to do with men who would not see things in the same light as himself; and that long habit rendered it difficult to change, at once, usages sanctified by time. Being a freethinker he often grossly overrode the rights of the Church. Toward the end of his reign his friends and even members of his own family treated him with cruel neglect and he died a disappointed, broken-hearted man. There is a large literature on his rule, much of which consists of his correspondence. Consult Arneth, A. von, ed., 'Marie Antoinette, Josef II und Leopold II, Ihr Briefwechsel' (Vienna 1866); id., 'Maria Theresia und Josef II, Ihre Korrespondenz, etc.' (Vienna 1867–68); id., 'Josef II und Katharina von Russland, Ihr Briefwechsel' (Vienna 1869); id., 'Josef II und Leopold von Toskana, Ihr Briefwechsel von 1781–1790' (2 vols., Vienna 1872); Beer, A., ed., 'Josef II, Leopold II und Kaunitz, Ihr Briefwechsel' (Vienna 1873); id., 'Josef II' (Vienna 1882); id., 'Joseph II und Graf L. Cobenzl, Ihr Briefwechsel' (Vienna 1901); Bright, J. F., 'Joseph II' (London 1897); Brunner, S., ed., 'Die Theologische Dienerschaft am Hofe Josef's II' (Vienna 1868); id., 'Correspondances Intimes de l'Empereur Josef II avec le Comte de Cobenzl et le Prince de Kaunitz' (Vienna 1871); id., 'Josef II' (Freiburg 1885); Delplace, L., 'Josef II et la Revolution Brabarçonne' (Bruges 1890); Fournier, A., 'Josef II' (Prague 1885); Gross-Hoffinger, A. J., 'Geschichte Josefs II' (Stuttgart 1847); Jäger, A., 'Kaiser Josef II und Leopold II' (Vienna 1867); Juste, T., 'Histoire du Règne de l'Empereur Josef II et de la Revolution Belge de 1790' (2 vols., Brussels 1845–46); Kohut, A., 'Kaiser Josef II' (Dresden 1890); Lorenz, O., 'Josef II und die Belgische Revolution' (Vienna 1862); Lustkandl, W., 'Die Josephinischen Ideen und ihr Erfolg' (Vienna 1881); Meynert, H., 'Kaiser Josef II' (Vienna 1862); Paganel, C., 'Histoire de Josef II' (Paris 1843); Schlitter, H., 'Pius VI und Josef II, 1782–84' (Vienna 1894); id., 'Die Regierung Josefs II in den Oestereichischen Niederlanden' (Vienna 1900); id., 'Geheime Korrespondenz Josefs II mit Graf Trauttmansdorff' (Vienna 1902); Temperley, H. W. V., 'Frederic the Great and Kaiser Joseph' (London 1915); Wendriski, J., 'Kaiser Josef II' (Vienna 1880); Wolf, A., and H. von Zwiedeneck-Südenhorst, 'Oestereich unter Maria Theresia, Josef II und Leopold II' (Berlin 1882–84); Wolf, G., 'Das Unterrichtswesen in Oesterreich unter Josef II' (Vienna 1880).

JOSEPH OF ARIMATHÆA, member of the Jewish Sanhedrim, who believed in Jesus, but had not the courage to make profession of faith. He was born in Rathaim, a city of Benjamin, near Lydda. After the crucifixion he went to Pilate, begged the body of Jesus, wound it in fine linen and buried it in his own new tomb. According to tradition he came as apostle to Glastonbury, England. His day is 17 March in the Roman Catholic calendar and 31 July in the Greek Church.

JOSEPHI, jō-zĕf'ī, **Isaac A.,** American artist: b. New York, 1859. His artistic education was obtained at the Art Students' League, New York, and with Léon Bonnât, Paris. He is a painter of miniatures and landscapes, has exhibited at many exhibitions, receiving honorable mention at the Paris Exposition of 1900 and a silver medal at the Charleston Exposition of 1902.

JOSEPHINE (Fr. zhō-zĕ-fēn), or **MARIE ROSE,** empress of the French: b. Trois Islets, Martinique, 23 June 1763; d. Malmaison, near Paris, 29 May 1814. She was the daughter of Lieut. Joseph Tascher de la Pagerie and was married in 1779 to Vicomte Alexandre de Beauharnais, by whom she had two children, Eugène and Hortense. In 1794 her husband, who had been commander of the army of the Rhine, was executed by order of the Convention. She herself had a narrow escape, having been included in the list of proscription. After the fall of Robespierre she is said to have paid a visit to Napoleon to thank him for restoring the sword of her husband, and so pleased him that he soon after married her (1796). When Napoleon became emperor in 1804 she was crowned with him. But the fact that the union was childless stood in the way of Napoleon's ambition to become the founder of a dynasty, and accordingly in 1809 Josephine was divorced, retiring to her seat of Malmaison with the title of empress-queen-dowager and an annual grant of 2,000,000 francs. Though frivolous, extravagant and flirtatious, her influence on Napoleon seems to

have been on the whole for his benefit. He greatly appreciated, not only her beauty, but her tact and common sense, which he proved by maintaining friendly relations with her even after his second marriage and by treating her two children as if they had been his own. (See FRANCE; NAPOLEON I). Consult Abbott, J. S. C., 'Kings and Queens, etc.' (New York 1848); id., 'History of the Empress Josephine' (New York 1863); Aubenas, G. A., 'Histoire de l'Impératrice Joséphine' (2 vols., Paris 1858–59); Hall, H. F., ed., 'Napoleon's Letters to Josephine, 1796–1812' (New York 1903); Headley, P. C., 'The Life of the Empress Josephine' (Auburn 1853); Imbert de Saint-Amant, A. L., 'Josephine' (translated into English by T. S. Perry, 4 vols., New York 1891–99); Le Normand, M. A., 'Mémoires Historiques et Sécrets de Joséphine' (2 vols., Paris 1820; New York 1904.); id., 'Lettres de Napoléon à Joséphine' (Paris 1833); Masson, F., 'Joséphine' (3 vols., Paris 1899–1902); Memes, J. S., 'Memoirs of the Empress Josephine' (New York 1835); Méneval, N. J. E. de, 'The Empress Josephine' (translated by D. D. Fraser, Philadelphia 1912); Ober, F., 'Josephine, Empress of the French' (London 1901); Pichevin, R., 'L'Impératrice Joséphine' (Paris 1909); Rémusat, Madame de, 'Mémoires' (London 1880); Sergeant, P. W., 'The Empress Josephine' (2 vols., London 1908); Tarbell, I., 'Life of the Emperor Napoleon' (New York 1901); Turquan, J., 'La Générale Bonaparte' (Paris 1895); id., 'L'Impératrice Joséphine' (2 vols., Paris 1895–96); Welschinger, L., 'Le Divorce de Napoléon I' (Paris 1889).

JOSEPHINITE. A natural iron-nickel alloy, Fe_3Ni_3, found in placer washings on Josephine Creek, Josephine County, Ore.

JOSEPHUS, jō-sē'fus, **Flavius** (Jewish name, JOSEPH BEN MATTHIAS), Jewish historian: b. Jerusalem, 37 A.D.; d. about 95 A.D. He was carefully educated and in 64 A.D. he made a journey to Rome. On his return he found his countrymen preparing to throw off the Roman yoke, and having tried in vain to persuade them of the hopelessness of such a struggle, accepted the post of defending the province of Galilee, and actually held the fortified town of Jotapata against the whole Roman army for 47 days. He was captured at the fall of the city, was afterward present in the Roman army at the destruction of Jerusalem (70 A.D.), and went with Titus to Rome, where, assuming the family name of his patron, Flavius, he lived in learned leisure. Here he wrote (in Aramaic and Greek) 'The History of the Jewish War,' in seven books, and 'The Antiquities of the Jews,' in 20 books; giving a history of the Jews from the earliest times to the reign of Nero. He also wrote an autobiography and a work entitled 'Against Apion,' in two books, which was a defense against false accusations raised against the Jews. He was a fluent, graceful writer and, on the whole, a truthful, accurate historian. That part of his work referring to Christ is no longer considered genuine. There are many editions of his two major works and the autobiography, the most important of which are by B. Niese (7 vols., Berlin 1885–95), and by T. Bekker and S. A. Naber (6 vols., Leipzig 1888–96). There are also many translations into different languages, both of the collected and of single works. A good list of these will be found in British Museum, 'Catalogue of Printed Books' (London 1889). The most important English translation is that by Whiston, 'The Works of Flavius Josephus' (5 vols., London 1889–1900). There is a very complete bibliography in Schürer, E., 'History of the Jewish People in the Time of Christ' (5 vols., New York 1896). Consult Arnold, C., 'Die Bibel, Joseph und Jerusalem' (Leipzig 1865–66); Bärwald, A., 'Josephus in Galiläa' (Breslau 1877); Bentwich, N. de M., 'Josephus' (Philadelphia 1914); Bloch, H., 'Die Quellen des Josephus in seiner Archäologie' (Leipzig 1879); Böttger, G., 'Topographisch-Historisches Lexicon zu dem Schriften des Josephus' (Leipzig 1879); Destinon, J. von, 'Die Chronologie des Josephus' (Kiel 1880); id., 'Die Quellen des Flavius Josephus' (Kiel 1882); Drüner, H., 'Untersuchungen über Josephus' (Marburg 1897); Krauss, S., 'Josephus Flavius' (in 'Jewish Encyclopedia,' Vol. VII, New York, 1904); Krenkel, M., 'Josephus und Lucas' (Leipzig 1894); Mez, A., 'Die Bibel des Josephus' (Basel 1895); Müller, G. A., 'Christus bei Flavius Josephus' (Freiburg 1895); Müller, J. G., 'Des Flavius Josephus Schrift Gegen den Apion' (Basel 1877).

JOSH BILLINGS. See SHAW, HENRY WHEELER.

JOSHUA, the leader of the Israelites after the death of Moses. He was the son of Nun, of the tribe of Ephraim, and upon him fell the task of conducting the people over the Jordan, and commanding their armies in battle against the heathen they were ordained to dispossess. He succeeded in ravaging a large portion of Palestine, and dividing it among the people. He died at the age of 110 and was buried at Timnath-Serah, in Mount Ephraim.

JOSHUA, Book of. The first 12 chapters of the book of Joshua continue the history of Israel from the point reached at the end of Deuteronomy, the death of Moses, to the conclusion of the conquest of western Palestine; and chapters xiii–xxi tell of the division of the land among the tribes. The remaining chapters, xxii–xxiv, constitute an appendix, giving various details concerning the closing days of Joshua, including his death and the death of Eleazer the son of Aaron.

It is now generally agreed that the documents found in the Pentateuch are to be discerned also in Joshua. This results from evidence of the same kind as in the Pentateuch. Their distribution, however, is peculiar. The bulk of chapters i–xii is from JE, and of xiii–xxi from P. A considerable part, in detached portions, of i–xii is from D, but very little in xiii–xxi. All three sources are found in considerable measure in the appendix xxii–xxiv. The JE source shows evidence of being composite, especially in double accounts of the same event, but most of it cannot be separated definitely into the J and E portions, in this respect differing from the Pentateuch. The D and P portions are probably not from the same documents as those which are called by these terms in the Pentateuch, but from writings by other authors of these schools. Concerning the details of the compilation of the book there is much difference of opinion. The best opin-

ion seems to be that the book was never actually joined with the Pentateuch, but always an independent book. It is often joined with the Pentateuch under the term Hexateuch because of the use of the same or similar documents.

There are various indications in the book itself that portions of it, at any rate, were written considerably later than the events described. The idealizing of the history, which will be mentioned later, is such an indication. Such also is the reference to "until this day" in Joshua xv, 63, and the reference to the book of Jashar, x, 13, which was a book of poetry later than David. The evidence of the documents indicates that the book contains portions written at various times. The final compilation, however, must have been as late at P, i.e., as late as 500 B.C. Some think it was considerably later, but there is no strong evidence of this, although some slight additions may very possibly have been made considerably later.

The degree of historicity of the book varies with the documents. The presumption would be that the JE portions are more fully historical, a presumption which is confirmed by a detailed examination. In the D and P portions the history is strongly idealized. Especially, the D and P portions present the view that the conquest of the land was completed by Joshua, the inhabitants exterminated, and the land divided among the tribes. Scattered notices from JE, however, in agreement with Judges i, 1–ii, 5, teach that the conquest was effected only gradually by the individual tribes. The view of JE is the earlier, historical one; the other, of D and P, is later and much idealized. The historical data of the book need careful examination in order to ascertain the probable facts. Further, the history of the book is fragmentary, the omission of any account of the conquest of central Palestine being especially remarkable. The D portions present the same religious view of the history that is found in the book of Deuteronomy.

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GEORGE RICKER BERRY,

Professor of Old Testament Interpretation and Semitic Languages, Colgate University.

JOSIAH, king of Judah. He succeeded his father, Amon (638 B.C.). He is said in the Scriptures to have done "that which was right in the sight of the Lord." He took an active part in the reform of temple worship, and in the abolition of idolatry throughout the land, and commenced the restoration of the temple, during the progress of which the high-priest Hilkiah discovered the book of the law, that is, the book of Deuteronomy. In his 30th year he marched out against Pharoah Necho, king of Egypt, who was on his way to attack the kingdom of Assyria. Josiah was slain in the battle at Megiddo where he had attempted to check the northward march of the Egyptians. Consult Wellhausen, 'Israelitische und jüdische Geschichte' (7th ed., Berlin 1914).

JOSIAH ALLEN'S WIFE. See HOLLEY, MARIETTA.

JOSIKA, yō'shĭ-ka, **Miklós,** BARON, Hungarian novelist: b. Torda, Transylvania, 28 April 1794; d. 27 Feb. 1865. He entered the army, reaching the rank of Captain, in 1818 turned to politics, and finally in 1834 devoted himself to literature. He took an active part in the Hungarian uprising of 1848, fled in 1850 to Brussels, and went in 1864 to Dresden, where he died. In September 1851, he was, with Kossuth and 35 others, hanged in effigy at Pest. Although the government subsequently offered him amnesty he never returned to Hungary. Up to 1848 he produced 60 volumes of romances, illustrating Hungarian life and history. His principal works are 'Abafi' (1851); 'Zrinyi a költö' (1843); 'Az utólsó Bátory' (1840); 'A Csehek Magyaro szágban' (1845); 'Egymagyar család a forradalom alatt' (1851). Most of his novels have been translated into German, and one — 'Familie Mailly' — was written in Uno language. Profoundly versed in the life of his people, and master of a pleasing style, he was very popular. Four volumes of memoirs appeared soon after his death (Pest 1865).

JOSS, a Pidgin-English term derived from the Portuguese "deos," meaning God. The word denotes a Chinese god or idol. A Joss-house is the place or temple where the idol is worshipped. There are three such houses in San Francisco, one in Chicago and two in New York. Joss paper refers to the gold and silver paper ornaments which are burned as sacrifice to the gods. Joss stick is a small stick made of a paste formed by compounding the dust of various scented woods mixed with clay. These are burned in the temples as incense for the gods.

JOSSELYN, jos'lĭn, **John,** English traveler: b. England, early in the 17th century. He sailed for New England on 26 April, arriving in Boston on 2 July 1638, and "presented his respects to Mr. Winthrop, the governor, and to Mr. Cotton, the teacher of Boston church, to whom he delivered from Mr. Francis Ouarles, the poet, the translation of several Psalms into English meter." He returned to England in October 1639, and made a second voyage on 23 May 1663, to New England, where he spent eight years. On his return in December 1671 he published a book entitled 'New England's Rarities Discovered in Birds, Beasts, Fishes, Serpents and Plants of that Country, etc.' With a picture of Boston in 1663 (London 1672; reprinted in Boston 1865). He also wrote 'An Account of Two Voyages to New England, etc.' (1674) and 'A Chronological Table of the Most Remarkable Passages from the First Discovery of the Continent of America to 1673.' Reprints were issued in Boston (1865).

JOTHAM, king of Judah, who succeeded (735 B.C.) Uzziah, his father, after having acted as regent for a number of years previously as a result of his father's illness. He ascended the throne at the age of 25 and reigned 16 years. He vanquished the Ammonites and furthered public works in Jerusalem to a considerable extent. The prophets Isaiah, Hosea and Micah lived during his reign. Consult Graetz, H., 'History of the Jews' (Vol. I, London

1891); Young, R., 'Analytical Concordance to the Bible' (New York 1893).

JOUBERT, yow'bĕrt, **Petrus Jacobus,** Boer military officer: b. Kongo, Oudtshoorn district, Cape Colony, 20 Jan. 1834; d. Pretoria, 28 March 1900. After an elementary education he settled as a farmer in the Wakkerstroom district of the Transvaal, about 1863 was elected for that district to the Volksraad, and in 1870 became attorney-general of the South African Republic. During the visit of President Burgers to Europe in 1875 he was acting President. In 1880 he became one of the triumvirate administering the provisional Boer government and commander-in-chief of the Boer forces at the outbreak of the war with England, and three times defeated the British, at Laing's Nek, Ingogo and Majuba Hill, the last battle (27 Feb. 1881) deciding the war in favor of the Boers. He was again acting President during the absence of President Kruger in Europe in 1883–84. Three times he unsuccessfully contested the presidency with Kruger, the vote being 3,431 to 1,171 in 1883; 7,911 to 7,246 in 1893; and 12,858 to 2,001 in 1898. In the second Boer war also he was commandant-general, and directed the campaign in northern Natal which resulted in a succession of disasters for the British. He became ill early in 1900, however, and was obliged to withdraw from active service. He was in many ways the ablest of the Boer military leaders, though his excessive caution, lack of determination and ready willingness to compromise with the opinions of other Boer leaders frequently resulted in his failure to carry his successes against the British to their logical conclusions. However, his valor, strict honesty and generosity brought him well-deserved admiration even from his enemies. Consult Anon., 'General Joubert' (in *Review of Reviews,* Vol. XXI, p. 574, New York 1900); Maurice, Sir F., ed., 'History of the War in South Africa 1899–1902' (4 vols., London 1906–10).

JOUETT, jow'ĕt, **James Edward,** American naval officer: b. Lexington, Ky., 7 Feb. 1827; d. Sandy Springs, Md., 30 Sept. 1902. He entered the navy in 1841, served with distinction during the Mexican War, was promoted to passed midshipman in 1847, in 1861 with a detachment of marines entered Galveston Harbor and destroyed the Confederate war-vessel *Royal Yacht,* and for his services was appointed to the command of the United States steamship *Montgomery.* As lieutenant-commander, he was prominent in Farragut's entrance of Mobile Bay (August 1864), and in 1885, when in command of the North Atlantic squadron he opened the transit across the Isthmus of Panama, closed by the enemy. He was promoted rear-admiral in 1886, subsequently president of the Board of Inspection and Survey, and in 1890 was retired. By a special act of Congress, passed March 1893, he was granted full pay during his retirement in appreciation of his great services to his country. Consult Anon., 'J. E. Jouett' (in *United Service,* Vol. XVI, p. 523; Vol. XVII, p. 17, Philadelphia 1896–97); Baber, G., 'Rear Admiral J. E. Jouett' (in *Kentucky State Historical Society Register,* Vol. XII, No. 35, p. 9, Frankfort 1914); Clark, C. E., 'Prince and Boatswain' (Greenfield 1915); United States, Navy Department, 'Memorandum in the Case of Captain J. E. Jouett' (Washington 1880).

JOUETT, Matthew Harris, American artist: b. Mercer County, Ky., 22 April 1788; d. Lexington, Ky., 10 Aug. 1827. His ancestors were Huguenots, who emigrated to North Carolina, and finally settled in Virginia. They were staunch patriots during the Revolution. His father eluded the British commander Tarleton, and gave the alarm to the legislature, then in session at Charlottesville, Va., for which action he received complimentary resolutions from Congress. Matthew was educated for the law, but devoted much time to drawing and painting. He enlisted in the War of 1812 as lieutenant of the 28th Infantry, serving in the Northwest, and was appointed captain. In 1815 he taught himself portrait and miniature painting, but in 1816 went to Boston, where he studied four months under Gilbert Stuart. In October 1816, he returned to Lexington, achieving reputation as a portrait painter, practising his art with success in New Orleans and Natchez, and throughout Kentucky. He painted more than 300 portraits, among which one of Lafayette was ordered by the legislature of Kentucky. In the Metropolitan Museum of New York is preserved his portrait of John Grimes.

JOUFFROY, zhoo'frwä, **François,** French sculptor: b. Dijon, 1806; d. Laval, 1882. He studied under Ramey and won the Roman prize in 1832 with 'Capanée foudroyé sous les murs de Thèbes.' In 1857 he was made member of the Institut and officer of the Legion of Honor in 1861. Two years later he was appointed professor at the École des Beaux-Arts. His best works are 'Caïn maudit'; 'Jenne fille confiant son premier secret à Vénus'; 'Lamartine'; 'La Désillusion,' for the Dijon Museum (1840); bust of 'Merlin' (1844); 'Printemps et l'Automne' (1845); 'Erigone'; holy-water font at Saint Germain l'Auxerrois, Paris; marble group of three children (1843); group in the portal of Saint Gervais (1854); 'Le châtiment' and 'La Protection' for the Palais de Justice, Paris (1865); a marble Saint Bernard for the Panthéon.

JOUFFROY D'ABBANS, Claude François Dorothée, klōd frăn-swä dō-ro-tā zhoo-frwä dăb-băn, MARQUIS DE, French inventor: b. Roche-sur Rognon (Haute-Marne), 30 Sept. 1751; d. Paris, 18 July 1832. He is claimed by the French as the inventor of steam navigation. He served in the army, and in 1783 succeeded in propelling a small paddle-wheel steamboat up the Rhone at Lyons — the connection between piston and paddle-wheel axle being rack-and-pinion. However, he found it impossible to get either the scientific or financial backing necessary to develop his idea and to commercialize it. In 1816 he attempted again to get the necessary support. This time he succeeded in founding a stock company. He built another boat, but its lack of success deprived him of further financial support. In 1830 he was admitted to the Invalides where he died from an attack of cholera. A statue was erected in his memory at Besauçon in 1884. He published 'Des Bateaux à Vapeur' (Paris 1816). Consult Jouffroy d'Abbans, A. F. E. de, 'Des Bateaux à Vapeur; Précis Historique de leur Invention, etc.' (Paris 1841); Jouffroy d'Abbans, S. de, 'Une Découverte en Franche-

Comté au XVIIIe Siècle' (Besançon 1881); Pradel, P. de, 'Le Marquis de Jouffroy d'Abbans' (Paris 1890); Prost, J. C. A., 'Le Marquis de Jouffroy d'Abbans' (Paris 1889); Swiwny, S. H., 'Jouffroy, the Inventor of the Steamboat' (in *Gentleman's Magazine*, n. s. Vol. XXXIV, p. 78, London 1885).

JOUKOVSKY, zhu-kôf'skē, **Vasily Andreievitch,** Russian poet and translator: b. 1783; d. 1852. He was the son of a country land-owner and a Turkish slave named Salkha. The father, Bounine, turned the child over to Andrew Grigorovitch Joukovsky, who ultimately gave him into the care of Madame Iouchkov, sister of Bounine, a rich and talented lady of great musical ability living at Tula, where she was the life of an artistic circle. Music, literature, plays, concerts were of frequent occurrence and awakened the latent talent of the boy who wrote two plays, 'Camilla,' and 'Paul and Virginia,' both of which were presented on the stage. In 1797 Joukovsky was sent to school in Moscow, where he at once began contributing to the local papers poems that attracted attention; and making translations for publishers to meet expenses, as his aunt died soon after his arrival at college. Among his translations were Kotzebue's entire plays and most of his novels. Becoming editor of the *European Messenger*, he proceeded to write each complete edition himself, making up the contents of translations, sketches, stories, criticisms and poems. In 1810 his natural father gave him money enough to buy a small landed property on which he settled. There he found congenial neighbors in a rich land-owner named Pletchéieve and his wife who were fond of literature, music, poetry and the drama. Madame Pletchéieve was musical and Joukovsky wrote poems and ballads which she set to music. The poet left with the national forces for the defense of the country in 1812; and his poem, 'The Bard in the Russian Camp,' descriptive of the first battle, became immensely popular throughout Russia. A second poem addressed to the Tsar on the capture of Paris in 1814 increased his reputation and brought him into direct contact with the court, where he became first reader to the empress and, later on, tutor to the royal children. There he acquired a reputation as a great teacher, a master translator and a good poet. He was a great favorite with the whole royal family who paid him liberally for his services. Joukovsky, judging from his original work, was possessed of considerable poetical feeling, but of comparatively little originality. Thus he fell short of rising to real greatness. His translations introduced to Russia some of the best Romantic literature of Germany, France and England which he admired very much himself without apparently entering into the true spirit of the revival which this literature represents. However, his long and enthusiastic labors and translations inspired succeeding Russian writers who were destined to enter more fully into the spirit of the western Romanticism. A master of poetical and literary form, Joukovsky was rather inclined to be conservative, though his friends have, somewhat inadvisedly, claimed for him the honor of having been the leader of the Romantic movement in Russia. His classical taste is shown in his excellent translation of the 'Odyssey.' By his distribution throughout Russia of translations of English and German literature and his presentation of the authors and the interpretation of their work he proved himself an even more successful teacher of the literary part of the nation than he had been of the children of the court. His influence upon Alexander II and the literary genius, Pouchkine, was alike strong and, in a sense, epoch-making, perhaps more so than that of any one other contemporary personage. Consult Grot, 'Sketches of the Life and Poetical Works of Joukovsky'; Jarintzov, N., 'Russian Poets and Poems' (New York 1917); John, 'Specimens of the Russian Poets'; Seidlitz, 'W. A. Joukovsky, ein russisches Dichtersleben' (Mittau 1870); Waliszewski, K., 'A History of Russian Literature.'

JOULE, James Prescott, English physicist: b. Salford, Lancashire, 24 Dec. 1818; d. Sale, Cheshire, 11 Oct. 1889. He was educated by private tutors at his father's house near Manchester and also received special instruction in chemistry from John Dalton (q.v.). His father, a brewer, was a man of considerable wealth. This enabled young Joule during his early manhood to pursue scientific research for which he quickly developed great enthusiasm. As early as January 1838 he described in the 'Annals of Electricity' an electromagnetic engine he had invented. While it was afterward found that this invention was impracticable as a substitute for the steam-engine, the further investigation to which it led brought to light many important facts concerning the laws of heat, its electrical and mechanical nature and evolution, chemical affinity as related to heat, etc. The mechanical equivalent of heat (see HEAT) was first ascertained by Joule, who also, in 1847, announced the doctrine of the correlation and conservation of energy, in a paper read at Manchester which failed at the time to impress men of science, as did also an address of like import before the British Association, but which was taken up by William Thomson (Lord Kelvin) (q.v.), with whom, from that time on, he collaborated to a considerable extent and by whom its momentous significance was brought home to the scientific world. No principle of science is now more fully established than Joule's law for determining the energy developed by an electric current in overcoming the resistance of a circuit, a law which he verified by experiment. He received the highest honors of scientific bodies and universities, amongst which were a gold medal from the Royal Society in 1852, the Copley Gold Medal from the same body in 1866, and the Albert Medal from the Society of Arts in 1880. In 1872 and 1887 he was made president of the British Association for the Advancement of Science. A statue has been erected to his memory in Manchester and a tablet in Westminster Abbey. His writings are to be found mainly in the proceedings of scientific societies and in English periodicals, but were collected and published by the Physical Society of London as 'The Scientific Papers of J. P. Joule' (2 vols., London 1884 and 1887). Consult Kelvin, Lord, 'J. P. Joule' (in *Cassier's Magazine*, Vol. VI, p. 405, New York 1894); Reynolds, O., 'Memoir of J. P. Joule' (in *Memoirs and Proceedings of the Manchester Lit. and Phil. Society*, Series

IV, Vol. VI, Manchester 1892); Tyndall, J., 'The Copley Medalist of 1870' (in *Nature*, Vol. V, p. 137, London 1872).

JOULE, International. See ELECTRICAL TERMS.

JOURNAL OF THE REV. JOHN WESLEY, The. "It was in pursuance of an advice given by Bishop Taylor . . . that I began to take a more exact account . . . of the manner wherein I spent my time, writing down how I had employed every hour." From the 'diary' kept as a result of this advice John Wesley "transcribed from time to time the more material parts" in order that he might "openly declare to all mankind, what it is that the Methodists (so-called) have done and are doing now; or rather what it is that God hath done and is still doing in our land." That is the origin and scheme of 'The Journal' as set forth by the Rev. John Wesley himself. It begins with the entry of Tuesday, 14 Oct. 1735, the day he and his brother, Charles, "took boat for Gravesend, in order to embark for Georgia," and ends with Sunday, 24 Oct. 1790, about four months before the author's death, covering a period of almost exactly 55 years. 'The Journal' is "a curious, monotonous, wonderful narrative" of the goings and comings, the manner of life, the mental attitude toward the world, rubric, religious doctrine and practice; the temperament, the ideas, the whole purpose of this most itinerant of all itinerant preachers. With the exception of the first part which deals with his visit to America, and a few pages covering his trip to Germany, taken in the hope that a stay among the Moravian Brethren would bring order out of the chaos of religious emotions and notions which filled his soul, this journal of nearly 2,000 closely printed pages is devoted to Wesley's unceasing and unparalleled activities throughout the whole of Great Britain and Ireland. Perhaps no journal of so public a man ever reflected so little of the general life, or contained less information concerning the men and events of the time. For example, there is not a word referring to the epoch-making struggles of the American Revolution. It is the journal of a man who could see only the religious scheme which filled his whole being. It is a carefully prepared record of when he preached and where, what he preached about, the size and the character and conduct of the audiences and the influence of his preaching upon them, together with remarks upon the difficulties and personal damages encountered. The brief and frequent mention of the opposition of the clergy of the "Church as by law established in England," of which he considered himself to be a true and loyal member, and the controversies with all other sectaries make 'The Journal' of value for the study of religious persons and institutions other than John Wesley. Although one must needs go to other sources to get a well-balanced and true measure of Wesley and his religious movement. 'The Journal' must needs be carefully and sympathetically read by anyone who would know the author and Methodism from the inside. Singularly enough, no one would ever suspect, from the reading of this journal, that Wesley had any social or home life; perhaps he didn't. His religion was all in all to him. The people he talked and associated with are presented either as believers or unbelievers. All the events through which he and others passed and even natural phenomena are set forth in such a way as to make them appear as the workings of providence or the activities of demons, and all this is done with a modesty and reverence that is both attractive and surprising. Had it not been for what Wesley believed was wilful misunderstanding and malicious misrepresentation it is hardly likely this journal would have been prepared and published, in which case the world would have lost an intimate and revealing history of one of the most conspicuous figures and important religious movements of the world. Unquestionably 'The Journal' is *just* John Wesley. What of his life is not here he counted as being of no value and so not worth being recorded. The last section, covering the period from 29 June 1786 to the end was prepared for publication by some one after the death of the great Wesley and so is of different value from the other portion.

CHARLES GRAVES.

JOURNALISM. Journalism is a comprehensive term which signifies the business of producing a public journal. In a general way it is applied to the vocation of making newspapers. Broadly speaking it is both a business and a profession, though the name of journalist as commonly understood is limited to those who are engaged on the editorial or news or literary side of the production rather than on the business side. While editor and journalist are not strictly synonymous — the former meaning the head of a paper or a department and the latter any literary worker on a newspaper — they are often used as convertible terms.

In a large sense the subject involves the functions of journalism as collector and purveyor of news and as leader and exponent of public opinion; the ethics of journalism in its various fields of political, religious, literary, social and commercial aim and representation; the relations of the counting room to the editorial department; the training and qualifications of the journalist; in short, the mission, methods, responsibilities and obligations of journalism. All of these general phases are deeply affected by the physical conditions of the business. During the closing years of the 19th century these conditions were practically revolutionized. In the mechanical facilities of production, in the cheapening of white paper and in the instrumentalities of news collection there has been an extraordinary advance. This great change in the material factors wrought a corresponding change in the scope and character of journalism. Not only as a business enterprise but as a public influence it took on new aspects.

The remarkable development of later years touches every side of the material production of a newspaper. The old, limited, slow-moving printing press has been transformed into the ingenious and gigantic quadruple or octuple which converts the plain white roll into complete, folded papers at the rate of 30,000 to 40,000 an hour. The number of pages may be determined at will, even at the last moment before going to press, thus responding to the exigencies of the news; and the application of the half-tone and of color at undiminished speed

permits pictorial effects. Simultaneously with this improvement in the printing press has come the linotype which substitutes machine typesetting for hand composition. A third vital advance has been the perfection of the process of making paper out of wood-pulp, which has vastly increased the supply and greatly decreased the cost of white paper.

These radical changes in the elemental business factors have largely modified the conditions of journalism. They have opened the way to unlimited production and have enormously cheapened the cost of the single copy. Penny and two-cent papers have become the prevailing rule. Immense circulations have thus been rendered possible, and where, about 1875, the edition even of the most widely read papers was comparatively limited not a few now issue scores and even hundreds of thousands of copies a day. At the same time the initial cost of the newspaper plant with its expensive machinery and the magnitude of the daily transactions require a far larger outlay than in the earlier time and the business has come to be one demanding much greater capital.

All of these circumstances have inevitably and powerfully molded the course and character of journalism. They have given increased importance to its business side, and have tended to make business considerations in the publication still more dominant. The effect has been twofold and somewhat contradictory. The great capabilities of the business with the reduced cost of telegraphing have stimulated and quickened journalistic enterprise and have broadened the range of the journalistic field. The scope of journalism has been enlarged and in many cases its standard has been elevated. Within a sphere, perhaps too limited, the best and worthiest effort is accepted as the best business. But, on the other hand, the competition for great circulations has bred sensationalism and a pandering to the taste for personal and piquant matters. There is an eager and feverish struggle for the unusual, the dramatic and the spectacular, a constant straining for effect, a lavishness of "scareheads" and garish pictures, a studied and persistent search for objects of criticism and attack. The appetite for the effervescent grows by what it feeds on, and must be met by new excitation. This rivalry of explosive and paroxysmal journalism is carried on with too little sense of responsibility and verification, and while the notable manifestations are exceptional and it would not be just to say that the infection has extended through journalism, it is nevertheless true that its injurious influence is widely perceptible.

In one important and conspicuous respect the development of journalism as a business has palpably improved its character. It has produced a greater degree of independence than ever distinguished it before. In the earlier days political and official advertising might be a large item in the income of a newspaper. Its monetary value gave it potency in controlling editorial policy. But in the expansion of the business under modern conditions official patronage is unimportant compared with general commercial advertising, and its relative decline in value has greatly reduced its power of influencing newspaper expression. The favor of the public is far more advantageous than that of the party manager. It brings popular circulation and consequently business advertising, and there is less concern about the crumbs that fall from the official table. Even party journalism has greatly advanced in independence. While standing as the recognized exponents of party principles and policies the important party papers have become much more free in their judgment of men, methods and measures. A more critical standard is applied and a more rigorous public accountability is enforced under which there has been a visible improvement in general civic administration.

Under the same influences distinctive independent journalism has increased. It professes to have no connection with any party and disclaims a representative party position. Its theory is that it addresses itself not to party sentiment but to independent public judgment, and its claim for support is based on its journalistic quality without regard to political association. It is the extraordinary advance of newspaper-making as a business that has rendered independent journalism on a large scale possible. A quarter of a century ago it would have been difficult to name more than two or three important examples in the United States. Now there are many conspicuous and successful papers which are thus classed, and even more significant of the change in journalism is the greater independence of the party journals already referred to. Indeed, in essential independence, which consists of free judgment and candid expression on public questions, the line of demarcation between the better class of party papers and the professedly independent papers is scarcely perceptible and it would be hard to distinguish between them.

There has been a signal advance in other directions. Against the false and meretricious tendencies to sensationalism which have been indicated must be placed a higher and broader treatment of all the varied interests of life. In news collection the journalism of to-day is as much ahead of that of 1875 as the railroad express is ahead of the stage coach. It spares no expense, reaches everywhere, sends its correspondents to all parts of the world, employs the best experts and specialists, caters equally to the lover of literature and the lover of sports, keeps pace with scientific discovery and development, rivals the best periodicals in commanding the most famous writers and artists, makes its own special missions of public service, reports all business, social, educational, philanthropic and religious movements, and, in short, treats whatever concerns mankind as within its boundless domain. Its range, enterprise and comprehensiveness are a constant marvel. With all its faults the breadth, fullness and accuracy which are combined with so much celerity of action attest a thoroughness of organization and extent of resources never before equalled.

There are marked differences, however, in its development in different lands. Continental journalism in Europe is of a type quite distinct from English journalism, and that again is unlike American. In Paris the news is not the conspicuous feature of the newspapers. It holds a subordinate place and is limited in its quantity. Literary and dramatic criticism and political discussion command the first rank, and

the feuilleton is a popular and important part. Literary excellence with a flavor of characteristic French wit is the dominant trait. The Parisian type with variations, generally soberer and heavier, is the prevailing Continental model. English journalism is weightier and more enterprising in news. It covers the field of international politics and war with special thoroughness. It lacks the variety and vivacity of American newspapers, but within its chosen and more limited range it is more complete. Its reports of parliamentary proceedings and of important political, social and scientific meetings are copious and intelligent, and its discussions are distinguished by sobriety and information.

In life, spirit, minuteness of news gleaning, emphasis of display and preponderance of personal flavor American journalism far outstrips all others. It does not surpass, oftentimes does not equal, British journalism in the presentation of great events, but in the multiplicity of its news of all sorts not only from its own country, but from all the world, there is no approach to it elsewhere. Its dominant tone is a light and airy freedom. There is a manifest tendency even on the part of the most respectable newspapers to avoid being heavy. The general aim is to be breezy, pungent and picturesque, and this often leads to the flippancy which is remarked in American papers. Perhaps the public taste which is thus indicated and cultivated will serve to explain in part why there are no serious and masterful weekly journals of literary and political discussion in the United States like the *Spectator* and the *Saturday Review*, and why even the monthly periodicals run chiefly to fiction and light matter. There are excellent trade journals of a high grade, showing a demand for the searching and careful treatment of special interests, but outside of these immediate representatives of the stupendous material enterprises of the land, the trend is toward the lighter vein.

Somewhat analogous is the explanation of the fact that journalism has grown more impersonal in its sources and impress. It is no longer distinguished by the great overshadowing personalities which marked it a generation ago. No editorial chief puts his individual stamp on a paper as Horace Greeley did, with his controversial power, his moral earnestness and his incisive force, which seemed to make the whole paper breathe his spirit and speak his voice. There are no successors to Raymond, Bennett, Weed, Bowles and Dana. Henry Watterson is perhaps the only survivor of the old school of journalists. The difference is due, however, not so much to the lack of men as to the change of conditions. In its immeasurably wider range and larger demands the great journal of to-day is the product of no single mind, but of a vast organization and of a whole galaxy of stars. The elder journalism was largely political pamphleteering. The later journalism is the complete mirror of daily life, and no individual throws so great a shadow across its comprehensive face.

It is a question much mooted whether journalism has declined in influence. It never was as universally read as now; it never was so much a common practice to read several newspapers; and whether in this multiplicity of reading and frequent contrariety of representation as serious an impression is made as when the appeal was more earnest and less divided may well be doubted. The editorial page has not actually fallen off in interest and importance; on the contrary, it is all in all better written, more varied and more instructive than when it had more of a polemic character. But in the broad development and great advance of the news departments the editorial page has receded in relative importance, and the drift to the light treatment of topics has tended to detract from its distinct and superior position. The greater absorption of the public mind in multiplied interests operates in the same direction. In the stress of modern business life and in the variety of diversions the body of readers have less time to follow public discussion. If it be true, as it often is, that the favorite journal does the thinking for its readers on current questions, it is equally true that many of the questions take less hold than when life was more simple and feeling more tense. When the press is in substantial accord on any public matter, except where party tradition rules, it generally carries the public judgment, and united expression makes it invincible; but when there is a discord of journalistic voices little heed is apt to be paid to any. The power of the press in its aggregate force, in the sweep of its activities and in a certain apprehension of its publicity, has steadily augmented; but at the same time the impression that it is too intrusive, too little restrained, too little governed by a just sense of responsibility, has grown and has impaired the influence it would otherwise exert.

It remains true, however, and probably grows more true with the decadence of other influences, that the press is the most effective force in protecting the moral and social well-being of the community. It is the belief of many observers that under our modern conditions the weight of mere authority is declining. In the intense strife and eagerness of the times the efficacy of the old standards in enforcing true principles and restraining wrongdoing grows weaker. With this advance of individual assertion and independence the power of public opinion is becoming the surest defense of social and business morality. The blaze of publicity gives a protection which nothing else furnishes. In the financial and social world there is a wide margin along the shadowy and undefined line between law and lawlessness, between ethical duty and questionable interest where the search-light of exposure is the only security. Much would be done under cover of darkness which fears the light. Despite a freedom which often degenerates into license the press is thus recognized not only as the most effective safeguard against political and administrative debauchery but as the best bulwark against that social and business misconduct which becomes a public offense.

The relation of the counting-room to the editorial department involves both the business and the ethics of journalism. The business side cannot be disregarded. In its ultimate purpose it is a commercial proposition. Newspapers are published to make money. The counting-room considers both income and outgo. It adjusts expenditures to receipts. It properly

studies to augment revenue in every legitimate way. But while newspapers are business enterprises they are such with recognized limitations and obligations. They are not simply business undertakings but public representatives, and the former object, while consistent with the latter, is subordinate to it. The foundation of the newspaper is the confidence of the public. It is the history of yesterday and the interpreter and teacher of to-day. In the very nature of the relation it assumes distinct obligations. It is bound to give the news and to treat public questions in absolute good faith. The counting-room is warranted in doing business in every way compatible with the fulfilment of that duty, but in all legitimate journalism it is a fundamental rule that editorial opinion and news publication must be beyond the reach of any questionable influence. The editorial department must be entirely free from commercialism. Public confidence and moral power depend on full faith that editorial and news conduct is honest, fearless and upright. The publication of a newspaper, like any other enterprise, is founded on business principles; its sphere or field of operations, whether general, political, literary or other, is chosen; the relation of counting-room and editorial-room in organizing and maintaining it on a sound business basis is of the most intimate character; but when the general lines of the enterprise are determined, the independence and integrity of the editorial management and fidelity to its declared aim as a public representative within its chosen sphere are absolutely indispensable. This rule lies at the foundation of the whole ethical code of journalism.

The question of the training and qualifications of the journalist has assumed new interest and importance both through the general growth of the profession and through special movements for its advancement. Schools or chairs of journalism have been established in a few instances and in a limited way, and the munificent endowment by Mr. Pulitzer of a college of journalism in Columbia University — the first large and distinct project of the kind — has presented the proposition in a practical and definite form. There are two systems of thought on the subject. The first holds that the best and most efficient school of journalism is the newspaper office. It believes that the true journalist is born, not made; that knack, aptitude, native talent, the sense of news and proportion lie at the foundation of success; and that the most useful training is that of actual experience. It does not dispute that broad education and culture are essential to the journalist, and recognizes that particular studies, like history, political economy, the fundamentals of law, social science and kindred matters, may be followed with special advantage. But it urges that these may be gathered from the general college course, and that the college or university has no distinctive professional knowledge to teach journalists in the special sense that it has to teach lawyers or physicians. The technicalities of the newspaper art — a suitable style, phonography, proof reading, the treatment of news and the like — are best acquired in practice, and the rest is the quickest and surest application of knowledge which is power, and of instinct or intuition which in dealing with public intelligence and currents is no less power, to the activities of the world.

The other system of opinion is represented in the scheme and scope of Mr. Pulitzer's College of Journalism. It is based on the theory that the journalist can be prepared for his vocation, like the lawyer, by a special course of study adapted to its requirements. Its aim and its tendency are to elevate and dignify the profession, and to establish a higher standard both of obligation and of performance. It seeks to teach not merely the technical necessities in newspaper-making but the true ideals of public service to which the newspaper should be dedicated, and the wide range of knowledge with which the journalist should be equipped. This includes style, ethics, law, literature, history, sociology, statistics and particularly the principles and methods of journalism. It embraces an examination and comparison of existing newspapers by experts, an exposition of the functions of editor, correspondent and reporter, and the production of an experimental journal under the necessary limitations with its practical application of the instruction. In its main features this plan is an enlargement of the ordinary academic course directed to a particular end, and it is claimed that the establishment of such a college with liberal endowment would not only provide a large body of trained journalists but would set a standard for the profession.

On the whole, notwithstanding the faults of the "new journalism," the position of the press in the public estimate is increasing. One evidence of this truth is the more liberal character of libel legislation. In some States the greater license has prompted efforts at more restrictive measures, but the general trend of legislation has been toward reasonable liberality with just accountability. The prevailing movement has been to provide reparation for any wrong or injury that may be done, to assure just restitution for actual damages, but not to permit punitive damages to trammel the free expression of opinion. Journalism is advancing and is acquiring a higher position and recognition as a distinct profession. With the enlightened spirit of the age and with the marvelous agencies of instant and united expression the power of public opinion steadily grows, and the journalist is its medium and prophet. See AMERICAN NEWSPAPERS; PERIODICAL LITERATURE.

CHARLES EMORY SMITH,
Late Editor of 'The Press,' Philadelphia.

JOURNALISM, Agricultural. As with the press in general, agricultural journalism has grown in this country as nowhere else in the world. This is due, of course, to the widespread literacy of our people, as compared with the general agricultural populations of other modern countries. But it is also due to the demands of the new farming and rural life. The extension of the reading habit among farmers has undoubtedly furthered the rapid expansion of agricultural journalism. Its growth in this country really began about the middle of the last century, but since 1900 there has been a tremendous growth in the number, the variety, the circulation and the influence of the farm papers and journals of all kinds.

This period of most rapid expansion is coincident with that of the extension of public education and the various phases of rural progress. Until recent years there have been few books that treated the farmer's problem from his point of view. Moreover, he had to learn the habit of dependence upon books. The farmer now can find specific help in books, for farm experience is rapidly being put into print. The present-day farmer who would succeed among his fellows must read. The reading habit has naturally developed. The experience of the experiment stations as indicated by their "lists" shows the demand for the ordinary bulletins growing quite rapidly, but not so universal as could be wished. The extension departments have sought to encourage the reading habit by the development of farmers' reading courses. The agricultural colleges have also widely cultivated the habit of "correspondence" in their constituents.

The sympathetic editor of an agricultural paper has an even greater opportunity. An important phase of the work of the farm journals is nearly always this "correspondence" feature. They also bring to the farmer digests of the books and bulletins elsewhere appearing which might be of interest to him. They thus furnish to the farmer practically the only literature adapted to his needs and tastes except the technical agricultural books and bulletins. The proportional scarcity of books and papers in the farm home is a result of the lack of adaptation of general literature to the farmer's special needs. The daily newspapers — and especially the weeklies and semi-weeklies — have to some degree adapted their columns to the needs of their farmer readers, by, in many cases, pages and supplements which practically amount to farm papers. The farmer's need for suitable reading matter is thus rapidly and successfully being met.

In 1918 there were listed in the various annual newspaper directories some 400 specifically agricultural journals. From 1908 the number had increased by nearly 100 (25 per cent). This rate of increase was much more rapid for this and other special journals and periodicals than for the press of the country in general, and is indicative of the adaptation of the American press to the special needs of the various classes and occupations of our people. The number of those which the directories call agricultural publications, and which have some agricultural material and interest, but are often agricultural only in name, is much larger, probably 900. This listing does not include the very large number of government bulletins and other publications which might legitimately be added. The "weekly" seems to be the most popular form of American journalism, in general, for of the 25,000 newspapers and periodicals published nearly two-thirds, or more than 16,000, are weeklies. This is even truer of the more specialized periodicals, and specifically of the agricultural press. "Quarterlies" are rare, as are "bi-monthlies"; but "monthlies" are fairly common; the "semi-monthly" or "bi-weekly" much less so; the "weekly" by far the most common. There are also "dailies," but they are only in the form of brief bulletins of information. The weeklies also have by far the larger circulations, indicating that they best meet the popular demand. The agricultural press has specialized with amazing rapidity, showing the intensive special and local interest of the farmer. The number, variety and circulation of the papers that cannot be classed as agricultural, but are devoted to forestry, horticulture, floriculture, stock and stock-raising, irrigation, poultry, bee-keeping, dairying, as well as to a multitude of still more special interests, steadily increases.

The foreign language press appears also in agricultural journalism. There are already a score and more in Hungarian, Japanese, Swiss-Italian, Bohemian, Hollandish, Finnish, Swedish, German, Polish. The largest number hitherto are in German.

No attempt has been made to arrive at the total circulation of farm papers. There is a full score of them with sworn circulation of more than 500,000; probably one-quarter of all have a circulation of more than 100,000. The more special and local papers naturally have the smallest circulation. The more important of the farm papers thus equal in circulation the greatest city dailies. In general, they are largely confined to State areas for their respective constituencies, but a number are regional in influence. There are none that approximate to the status of a national farm journal. There has, however, been some approach to such in the case of the *Orange Judd Farmer* with its various regional editions.

Thus, while its latter-day expansion has been most noticeable, agricultural journalism has nevertheless had a long history and a sound development and evolution. It is by no means of such recent appearance as is so often suggested. While there was no sign of an agricultural paper until the beginning of last century, the rise of the agricultural societies at that time brought such into existence in the form of the regular organs of the societies for collecting and distributing information. Such were, however, rather in the nature of a "record" than in the form of a "journal." Probably the first of these was the *Massachusetts Agricultural Repository and Journal* of the Massachusetts Society for Promoting Agriculture, established in 1793.

Agricultural journalism in this country is usually, however, dated from 1819 when the *American Farmer* was established in Baltimore as an eight-page weekly. This lasted till 1862. Other notable early farm papers were *The Plough Boy*, of Albany, New York; the *New England Farmer*, of Boston, 1822; the first *New York Farmer*, New York, 1827. Few of these early publications have survived. The *Country Gentleman*, originating in 1853, has probably had the longest continuous history. But a number of farm papers, appearing first about the middle of the century, still survive, and have given a substantial nucleus to the rapidly expanding agricultural press. From 1850 the development has been rapid. Independent horticultural papers began to appear about 1835 and other special journals rapidly followed. Agricultural journalism has doubtless played its part in the adjustments necessary under the rapidly changing conditions of agriculture and rural life in the United States. Its prints have doubtless taken the place of traditional experience, so important a factor in agricultural progress in other lands. It has served as a neces-

sary and invaluable link between the progressive leaders of American agriculture in the government offices, the colleges, and on the farm, and the general farm population. It has served to distinguish and dignify the farmer's occupation and life by its recognition of his special needs and tastes. Its greatest lack at present seems to be that it is still largely devoted to the technical and economic aspects of the farmer's life and fails to devote sufficient attention to the social. This defect is, however, being remedied by the development of special farm home and family journals.

WILLIAM L. BAILEY,
Associate Professor of Political Science, Grinnell College.

JOURNALISM, Class Publications. The story of American journalism is incomplete without consideration of the influence of magazines as distinguished from newspapers, of technical and trade papers, foreign language papers, college periodicals, and a long line of what are called "Class Publications," ranging all the way from religious papers and women's magazines to medical journals and anarchistic periodicals. All these are a part of journalism, and each class contributes its share to the molding of public thought and action. For it must be admitted that the republic is largely governed by its journalism; this has come to be the accepted mode of interchanging thought, and when many great newspapers or magazines or periodicals act in unison on definite lines, public thought is molded, and action results. We have to judge our public men mainly by what the press says of them; we have to form opinions of our industries largely by the trade papers; we have to measure the work of colleges in considerable degree by the sort of college papers they create. The great divines, the great surgeons, the great scientists have to be made by the press or remain unknown. So, whether we like it or not, we are forced to the conclusion that the charge that America is governed by its press is largely true; hence the great importance of keeping that press pure and devoted to the highest ideals. Magazines of nation-wide circulation have come to exercise a strong influence on national policies and the government at Washington. They thus serve as a wholesome balance to the influence of a local press that must largely represent its own locality rather than the people as a whole. The religious press has a wide influence on the development of the churches, which are generally recognized as the saving element of every community that makes for advance in morality and ideals. The agricultural press is almost as numerous, and has undoubtedly had a large share in the movement to make farming more profitable and to rescue agriculturists from handing all their profits to middlemen. Through public agitation and development of granges, selling societies and the Farmers' National Congress the farmer has taken his rightful place as a business man, and seems likely to maintain it in spite of industrial trusts. The technical and trade press has had a tremendous development, belonging almost wholly to the period since 1880. Every great industry has numerous important periodicals, and the minor industries have from one to half a dozen each. These have come to wield a wide influence, and are very informative to the outside world, as well as the special industry concerned. They afford a field for discussing and thrashing out differences of opinion in the trades, both as to business measures and mechanical and technical problems. This sort of journalism has reached its highest development in America, and has done a large share toward bringing together the active men in each industry and helping them to work on harmonious lines. College journalism was long looked upon as amateurish, and merely illustrative of boyish effort and imitation; but it is now apparent that it has found a deeper and fuller meaning. In the colleges are developed most of the men who are to be the leaders of the coming business generation. Their college papers are the trying-out ground, where young college men first test themselves against the world, and begin to learn something of the conditions of life and society under which each must work out a place for himself, if at all. They afford a much needed expression of the younger minds, and dull is the college professor who cannot gain lessons from the sprightly scribblings of his own students. The foreign language press was regarded by most journalists as being a wholly negligible feature in American journalism until the advent of the war. Then it became apparent that visitors to our shores who clung to their mother tongues were largely influenced in their views by our foreign language papers, and that many of them were quite un-American in tone and utterance. It is well that the eyes of the great public were opened to what is the average character of foreign language papers, because an understanding of their position and influence carries its own remedy for any abuses of the power to influence those on American soil, where Liberty should be maintained as the national watchword and the ideals of the Fathers of the Republic upheld at all costs. The number and importance of these various class papers can be ascertained by reference to the article on NEWSPAPERS, AMERICAN. They are a permanent addition to Journalism, and must be reckoned with in any broad-minded effort to judge of the influence of the press on the peoples of the New World.

CHARLES H. COCHRANE,
Formerly of the Editorial Staff of Newspaperdom.

JOURNALISM, School of, a college of journalism, endowed by a gift of $2,000,000 by Joseph Pulitzer, editor and proprietor of the New York *World,* to Columbia University, New York, in 1903. With the advance of civilization and general culture and intelligence the demands upon the journalists of the present day are constantly becoming greater and this college is the recognition of the importance and place of journalism as a profession, and a practical endeavor to equip those who adopt it, by a course of thorough instruction, for its exacting and laborious duties. Mr. Pulitzer considered the creation and rendering effective of public opinion a task of which the press alone is capable of successfully accomplishing. The College of Journalism is therefore a means to an end — to raise the character and standing of journalism, to increase its power and prestige, and to attract to the profession men of

the highest capacity and the loftiest ideals, who, because of special training, will advance the professional to a higher standard of thought and action. This school was the first institution of the kind in the world. It opened 30 Sept. 1912. On 1 Nov. 1916 there were in all 180 students, of whom 36 were women. Students of maturity, experience and marked fitness are admitted without examination. The degree of bachelor of literature in journalism was conferred on 24 students in 1916. While there are universities and colleges which give courses in various phases of journalism, no other school is so well endowed, none has a course giving so much time to the solid study needed for the training of the journalist, and the school has also the crowning advantage of a metropolis like New York in which to train its students in reporting by sending them to see and to write upon events as they come in the life of a great city. Attendance on first-night performances is employed in training for dramatic criticism. This practical training in the work of the journalist comes in the last two years, but of the four years' course four-fifths are devoted to the study of history, constitutional law, political science, economics, statistics, American and European literature, etc.; a mastery of either French or German is insisted on. In 1918 the school will be placed on a full professional standing. Five years will be required for a degree from the high school, the first two in college and the last three in the School of Journalism. See JOURNALISM.

JOURNALISTS, The ('Die Journalisten'). This comedy of four acts in prose was played for the first time in 1852, the year in which it was written. It originated in the personal experience of its author, Gustav Freytag, who from 1848–70 had been a partner and joint-editor of the *Grenzboten*, a German weekly for literature and politics. The scene is laid in a provincial town in Germany, and the significance of journalism in politics is dealt with, as well as the character and the social position of journalists. In the electoral campaign between the Conservative and the Liberal party — the pivot of the plot — victory for Oldendorf, the candidate of the Liberals, is won through Bolz, one of the editors of the Liberal paper *The Union*. Bolz is the hero of the play. He can get along well with any one, he is never upset, least of all when he pretends to be, he is humorous and peppery, he can even venture on risky enterprises, for his heart is and always remains in the right place. In his person the journalists are also granted their esteemed place in modern society, for Adelheid Runeck, a young lady of wealth and noble birth, gives him her hand in marriage.

The strength of this comedy lies largely in a clearly drawn up scheme, a quick, witty dialogue, a smooth delineation of characters, and a sympathetic insight into human nature whose weaknesses are smiled at rather than satirized. Consult G. Freytag's works (Leipzig, 1887–88, Vol. III, pp. 1–112); English translation in 'The German Classics' (Vol. XII, pp. 10–108); Seiler, F., 'G. Freytag' (1898, pp. 81–91); Stern, A., 'Studien zur Literatur der Gegenwart' (Vol. I, 3d ed., 1905); Lindau, H., 'G. Freytag' (Leipzig 1907).

EWALD EISERHARDT.

JOURNEY AROUND MY ROOM (Voyage au tour de ma chambre). We owe this "exquisite morsel," as the French admiringly call it, to a happy accident. Xavier de Maistre (1763–1852) having been arrested as a young officer for duelling was sentenced to confinement for six weeks. He wrote 42 chapters, one for each day, descriptive of his wanderings around his room. He had no thought of publishing the work, but his elder brother, the philosophic writer, Count Joseph de Maistre, secured its publication. It is a little the irony of fate that, as David says in his introduction to the volume containing it in the French series known as the 'Library of the Bibliotheque Nationale,' the younger brother's unvalued literary diversion promises to outlive the elder brother's philosophic speculations. The book is known particularly for its sympathetic treatment of the duality of man's nature. His animal body is in prison, but his mind can go wandering far beyond the walls. His mind can occupy itself satisfactorily while his animal is doing the ordinary things of life. His mind watches his animal make coffee in the morning, and sometimes, lost in happy memories or occupied with poetic distractions, permits the animal without sense in such matters to burn itself with the fire irons or do something equally foolish. A favorite mode of journeying, since he is not hurried, is while seated on an armchair to lift the forelegs a few inches from the floor and then, swinging backward and forward, to move gradually, almost imperceptibly, around the room. Almost invariably his animal makes his way toward the portrait of a charming lady that hangs on the wall. Thirty years after 'The Journey Around My Room,' its author wrote 'The Nocturnal Expedition Around My Room' in the same vein and, surprisingly enough, with equal charm. Consult Sainte-Beuve, 'Portraits Contemporains'; Bibliotheque Nationale Collection des Meilleurs Auteurs Anciens et Modernes (complete works in single small volume); Eng. translation, Philadelphia 1829; New York 1907.

JAMES J. WALSH.

JOUTEL, zhoo'tĕl, **Henri,** French pioneer in America: b. Rouen, late in the 17th century; d. there early in the 18th. He was a soldier in early life. When La Salle was commissioned in 1684 to reconnoitre the mouth of the Mississippi by sea, Joutel accompanied him as intendant. In 1685 he was appointed by La Salle to finish Fort Saint Louis, which the latter had begun. After the departure of La Salle on his expedition, two of the colonists formed a plot to murder Joutel, but he discovered it in time, and, having received an order to join La Salle with all his force, he delivered the criminals to the latter. In October, Joutel was again made commander at Fort Saint Louis with 34 men under him, and was again disturbed by plots to kill him or deprive him of his office. He set out for the Illinois on 12 Jan. 1687, with La Salle, and, after the assassination of the latter on 19 March, Joutel's death was also decided on, but his life was finally spared. Not long afterward he set out for Illinois accompanied by six other Frenchmen and after various adventures reached Fort Saint Louis on 14 September, and arrived in Mackinaw on 10 May. Joutel went to Montreal and Quebec shortly afterward and em-

barked for Rouen, where he appears to have spent the rest of his life. Charlevoix saw him there in 1723. Joutel was the only one of La Salle's party on whom that explorer could rely and his account of the last expedition of La Salle is the only trustworthy one. This work is entitled, 'Journal historique du dernier voyage, que feu M. de la Salle fit dans le Golfe de Mexique, pour trouver l'embouchure et le cours de la Rivière de Saint Louis, qui traverse la Louisiane. Au l'on voit l'histoire tragique de sa mort et plusieurs choses curieuses du nouveau monde' (Paris 1713; Eng. translation by H. R. Stiles, Albany 1906).

JOVANOVIĆ, yō-vä'nō-vĭch, **Jovan** ("Zmaj"), Serbian journalist and poet: b. Novi Sad, Neusatz, 1833; d. 1904. He studied law in Pest, Prague and Vienna and returned to his native place to practise his profession. There he drifted into journalism, becoming editor of the *Javor (Acorn)* in 1861. In 1862 he returned to Pest to study medicine in which he graduated six years later. All the while he continued to contribute to the press humorous and other articles in prose and verse which attained considerable popularity. In 1864 he founded the *Zamaj (Dragon)*, which served as the medium of publication of some of his best work. Two years later his successful play 'Saran' was presented. His growing reputation led him more and more insensibly into literature. Part of this activity resulted in the founding of *Starmali*, a humorous periodical (1878), and *Neven*, a juvenile publication (1880). In addition to his extensive creative poetical and prose work Jovanovic was a very active and successful translator into Serbian of the literary productions of other poets. Good editions of his own works were published in 1880 and in 1887.

JOVANOVIĆ, Stephan, Baron von, Austrian general: b. Pazariste, 1828; d. 1885. Entering the army young and without any previous military education, he rose rapidly by his application and ability. In 1848 he took part in the Italian campaign; and in 1852 he went to Turkey, where he ultimately became consul-general with headquarters at Bosnia (1861–65). He served in the army in Italy in 1865–66, and was commander in Dalmatia in 1869. Nine years later he became military governor of Herzegovina; defeated the revolutionists in Krivosije in 1882 and returned to Dalmatia as civil governor the following year.

JOVANOVIĆ, Valdimir, Serbian statesman and author: b. Shabatz, 1833. Studying in Vienna and Berlin, he obtained a position in the Department of Finance, which he soon lost on account of his radicalism. He ventured into journalism with the same result. He was finally forced into exile, going to Switzerland. Returning to Serbia he became leader of the younger and more radical element. In 1869 he was arrested and tried for the murder of Prince Michael, but was acquitted. His radical views gradually changing, he was elected a member of the Skupshtina in 1872 and appointed Minister of Finance four years later. The latter position he held until 1889 when he became a member of the Council of State (1889–93). Among his works are 'The Serbes and their Mission in Europe and the East' (1870); and 'Emancipation and Unity of Serbia' (1871). He also made extensive translations into Serbian.

JOVEITE, jōv'īt, is a nitro-substitution explosive used in blasting, and as charges for high-explosive shells, which was invented by J. E. Blomen, Washington, D. C. It consists of nitro-naphthalenes 6 to 8 per cent, nitrophenols 16 to 30 per cent, and nitrate of soda 64 to 76 per cent. It is made by melting the nitro-naphthalenes in a steam-jacketed kettle, adding the nitro-phenols and continuing the heating until they are melted, and then stirring into this liquid mixture the solid nitrate of soda in a finely ground and perfectly dry condition until each of the solid particles of the nitrate is coated and impregnated with the liquid. On cooling, the particles of the nitrate are protected from deliquescence by the coating of scarcely soluble nitro-substitution compounds, while on explosion, the nitrate causes the reaction to be most complete. For blasting purposes this explosive is used in a granulated condition, but in loading armor-piercing projectiles it is poured into the shell while in the plastic condition and on cooling sets to a hard mass which completely fills the cavity except for a canal in the centre where the fuse is placed. For blasting purposes the explosive is fired by means of a mercuric fulminate detonator, but the charges in shells are fired by means of gunpowder fuses. In tests of the explosive by the United States navy, made at Indian Head, Md., in 1897, a 10-inch Carpenter armor-piercing shell containing 8.25 pounds of joveite, fired with a velocity of 1,860 foot-seconds at a Harveyized nickel-steel armor plate, 14.5 inches thick, passed completely through the plate and burst on the other side. See Explosives.

JOVELLANOS, hō-vĕl-yä'nōs, **Gaspar Melchior de,** Spanish statesman and writer: b. Gijon, Spain, 5 Jan. 1744; d. Vega, Spain, 27 Nov. 1811. He was educated at the universities of Oviedo, Avila and Alcalá, became in 1770 a member of the Royal Academy, in 1778 chief justice of the Criminal Court at Madrid and in 1780 a member of the council of state. Subsequently he was for a time Minister of Justice, but in 1801, through the agency of his enemy, Don Manuel Godoy, was imprisoned at Majorca. Released at the French invasion (1808), he joined the patriots and became a member of the supreme junta. His writings are various, including treatises on political economy, a dissertation on English architecture, a 'Memoir on Law Applied to Agriculture,' the tragedy 'El Pelayo,' and 'El Delincuente Honrado' ('The Honorable Delinquent'), a comedy.

JOVELLAR Y SOLER, hō-vä-lyär', **Joaquin,** Spanish statesman and soldier: b. Palma de Majorca, 1819; d. 1892. He saw military service in Cuba (1842–49); later in Spain (1849–53); and afterward in Morocco (1853–60). In all of his military campaigns he made a brilliant record and rose to the rank of colonel. In 1863 he was made brigadier-general and the following year he became assistant Secretary of War. He left Spain on the proclamation of the republic; but he was induced to return and was appointed governor-general of the island of Cuba, a position he gave up to become Minister of War under Alfonso XII. But he was needed in Cuba and he again became governor-general of the island.

He was very largely instrumental in bringing the Ten Years' War to a close (1878). On his return to Spain he became captain-general of the Spanish army and head of the Spanish forces in the Philippines.

JOVIANUS, jō-vī-ā-nŭs, **Flavius Claudius,** Roman emperor: d. Dadastana, Bithynia, 17 Feb. 364 A.D. He was originally captain of the household troops of the Emperor Julian, whom he accompanied in the disastrous campaign against the Persians in which Julian lost his life (363 A.D.). After Julian's death he was proclaimed emperor by the troops, but could only extricate his army by ceding to the Persian monarch the five provinces beyond the Tigris. He was succeeded by Valentinianus I.

JOVINIAN, an Italian opponent of the regular form of the Christian Church who flourished in the 4th century. He was one of the first great protesters in that body. He opposed the celibacy of the priests, though he never was himself married. He also opposed fasting and penance and the adoration of the Virgin. Driven out of Milan for his opinions he went to Rome, where he and his followers were excommunicated (388). On the confirmation of this sentence by the Pope, Jovinian was banished to the island of Boa by the Emperor Honorius, where he remained until his death in 406. But notwithstanding the banishment of Jovinian his ideas continued to spread. But the activity of Augustine and Jerome, their strong defense of the ascetics, their thunders against Jovinian and the support of the temporal authorities were ultimately successful in stamping out the Jovinian sect. Consult Karnack, Adolf, 'History of Dogma' (Boston 1894–1900); Jerome, 'Adversus Jovinianum' (Nicene and Post-Nicene Fathers, Vol. VI, 2d series, New York 1893).

JOWETT, Benjamin, English scholar and educator: b. Camberwell, London, 1817; d. 1 Oct. 1893. He studied at Oxford, was ordained in 1842, and became regius professor of Greek in 1855. In 1855 he published a notable commentary on the Epistles of Saint Paul. In 1860 he contributed an essay 'On the Interpretation of Scripture' to the celebrated volume 'Essays and Reviews,' for which he was tried on a charge of heresy before the Chancellor's Court, but was acquitted. In 1870 he became master of Balliol College, and in 1871 published his most important work, a translation of the 'Dialogues of Plato,' of which a fifth edition was issued in 1892. He subsequently published translations of Thucydides (1881) and the 'Politics' of Aristotle (1885). He was vice-chancellor of the university (1882–86). Consult 'Life and Letters' (edited by Abbott and Campbell, 1897); Tollemache, 'Benjamin Jowett, Master of Balliol' (1895).

JOWETT, John Henry, English clergyman: b. Halifax, England, 25 Aug. 1864. He was educated at the University of Edinburgh and Oxford University. In 1890 he was ordained a Congregational minister and became minister of Saint James Church, New Castle-on-Tyne 1890–95; minister of Carr's Lane Church, Birmingham, England, 1895–1911; pastor of the Fifth Avenue Presbyterian Church, New York city, 1911–18; returned to England in 1918 and became pastor of Westminster Chapel, London. He is author of 'Apostolic Optimism and Other Sermons' (1901); 'Brooks by the Traveller's Way' (1902); 'Thirsting for the Springs,' (1903); 'Yet Another Day' (1905); 'Passion for Souls' (1905); 'Folly of Unbelief and other Meditations' (1906); 'Daily Altar' (1907); 'The Silver Lining' (1907); 'The High Calling' (1909); 'From Strength to Strength' (1910); 'Our Blessed Dead' (1910); 'School of Calvary' (1910); 'The Transfigured Church' (1910); 'The Preacher: His Life and Work' (1912); 'Easter Morning' (1912); 'Things that Matter Most' (1913); 'My Daily Meditation for the Circling Year' (1914); 'Spirit of Christmas' (1914); 'The Whole Armor of God' (1916).

JOWF, or **DJOWF,** jouf, oasis in northern Arabia between the Syrian and Shammar deserts. It is also the name of a district of South Arabia. The oasis, which is really what its name implies, a fertile spot in the desert, produces a variety of products peculiar to the climatic conditions of that region, among them being excellent dates. Pop. about 40,000. The capital, El-Djof, contains about 4,000 people, while Sekakah has a population of about 5,000.

JOY, Charles Arad, American chemist: b. Ludlowville, N. Y., 1823; d. 1891. He was educated at Union College and the Harvard Law School. He also studied at Berlin and Göttingen and received the degree of Ph.D. from the latter in 1852, and after a few years spent as professor of chemistry at Union, became in 1857 professor of chemistry at Columbia, where he remained for 20 years. In 1866 he became president of the Lyceum of Natural History (later the New York Academy of Sciences) and was long one of the editorial staff of the *Scientific American.*

JOY, George William, English painter: b. Dublin, Ireland, 1844. He was educated at Harrow and studied art at Kensington, at the Royal Academy and under Charles Jalabert and Bonnat, at Paris. His principal pictures are 'Domenica'; 'Chess Players'; 'Laodamia'; 'Young Nelson's First Farewell'; 'Wellington at Angers'; 'Prince Charlie and Flora Macdonald'; 'The Death of General Gordon'; 'Princess Alice of Albany' (for Queen Victoria); 'Reverie'; 'Truth'; 'Joan of Arc'; 'Lear and Cordelia,' etc. He has also painted many portraits.

JOY, Thomas, American colonist: b. Norfolk, England, 1610; d. Boston, 1678. Upon emigrating to America in 1635 he established himself in Boston as an architect and builder and in 1657 erected the townhouse of Boston, the earliest civic structure of any note in New England. In 1646 for his share in the 'Child Memorial,' protesting against both the civil and ecclesiastical government of the Bay Colony, he was fined and imprisoned.

JOYCE, Isaac Wilson, American clergyman: b. Coleraine Township, Ohio, 11 Oct. 1836; d. Minneapolis, Minn., 28 July 1905. He was educated at Hartsville College of the United Brethren Church and was first licensed as a local preacher in that Church. In 1859 he entered the ministry of the Methodist Episcopal Church, joining the Northwest Indiana Conference. He served as pastor of several important churches and a term as presiding elder, the

last churches located in the Cincinnati Conference. He was elected bishop in 1888. In 1886 he was fraternal delegate to the Canadian Methodist Church. He was president of the Epworth League (1900–04). In 1892 he had supervision of the missions in Europe; Mexico in 1895; China, Japan and Korea (1896–97); South America (1903–04). He was a preacher of an intense evangelical type. Consult Sheridan, Wilbur F., 'The Life of Isaac Wilson Joyce' (Cincinnati 1907).

JOYCE, Robert Dwyer, Irish poet and physician: b. in County Limerick, September 1836; d. Dublin, 23 Oct. 1883. In 1866 he came to the United States and practised medicine for several years in Boston, Mass., contributing during that period to the *Pilot* and other Irish journals. He published 'Ballads, Romances, and Songs' (1872); 'Deirdré,' a much-admired epic poem, which appeared anonymously as one of the 'No Name Series' (1876); 'Legends of the Wars in Ireland' (1868); 'Fireside Stories of Ireland' (1871); 'Blanid,' a poem (1879); 'The Squire of Castleton,' etc.

JOYEUSE ENTRÉE, zhwä-yėz ŏn-trā, the name given to the important privileges of the estates of Brabant and Limburg, with Antwerp, which the dukes were obliged to swear to maintain before they were allowed to enter the ducal residence, from which circumstance the name was taken. It dates from 3 Jan. 1356, from the entry of Duke Wenceslas into Louvain. The most important of these privileges was that the people were released from an allegiance whenever the duke should attempt to violate their rights. So important were these privileges considered that many women went to Brabant to be confined there, that their children might enjoy the rights of a citizen of Brabant. See Boulger, D. C., 'History of Belgium' (London 1902).

JOYNES, Edward Southey, American educator: b. Accomac County, Va., 2 March 1834. He was educated at the University of Virginia and at Berlin, in 1858 was appointed professor of Greek at William and Mary College, in 1866–75 was professor of modern languages at Washington College (now Washington and Lee University, Lexington, Va.), and subsequently held chairs in Vanderbilt University and the University of Tennessee. In 1882 he became professor of modern languages in South Carolina College (Columbia), retiring as professor emeritus in 1908. He published textbooks of French and German, most important of which is the 'Joynes-Meissner German Grammar' (1887).

JOYOUS ENTRY. This became a custom in the Belgic Low Countries and the occasion of concessions and privileges in the northern Netherlands also. That of Queen Wilhelmina into Amsterdam, the political capital of the kingdom and in which she was inaugurated queen, was on 31 Aug. 1898. At The Hague, the seat of administration, a similar function, with spectacles, was given with unusual demonstrations of joy, the inauguration festivities lasting in the two cities a fortnight. In this modern instance, 100 invited foreign journalists as guests participated. The joyous entry of Leopold and those of his successors in Belgium were each made the theme of paintings by first-class artists.

JUAN DE BAENA, Hwän dā bā-ā'nạ, a Spanish writer and editor of the 15th century who made an anthology of the writings of contemporary literary men. Baena was a converted Jew who seems to have entered heart and soul into the life of the Christian community in which he lived. He rose to be one of the secretaries of John II. His 'Cancionero,' as his anthology was called, seems to have been composed between 1449 and 1454, as the author himself states in his preface, chiefly to please the king, but with an eye to pleasing also the queen, the heir-apparent and the court and nobility. It contains 384 manuscript pages and gives extracts from the works of nearly 60 Spanish writers, some of them dating back to the reign of Henry III. The 'Cancionero de Baena' is interesting and valuable historically, not on account of the literary and critical ability of the author, which was certainly not very great, but rather because of the light it throws upon the literary condition of the first half of the 15th century and the list of writers which it furnishes. Consult Castro, 'Biblioteca Española' (Madrid 1784, Vol. I); Ochoa, 'Manuscritos' (Paris 1844); Puybusque, 'Histoire Comparée des Littératures Espagnole et Française' (Paris 1843); Ticknor, G., 'History of Spanish Literature' (New York 1854).

JUAN FERNÁNDEZ, joo'an fĕr'nän-dēz (Sp. hoo-ān' fĕr-nän'dēth), a group of islands in the south Pacific Ocean, 300 miles west of Chile and belonging to that country. They are named from a Spanish pilot who discovered them in 1563 and obtaining a grant from his country started a settlement. There are two principal islands, Mas a Tierra (nearest to land) and Mas Afuera (farther out), the latter 90 miles west of the former, both on lat. 33° 40′ south. Mas a Tierra is 12 miles long, 3⅓ miles wide, of rugged configuration with its higher peak, El Yunque (the anvil), rising 2,500 feet above sea-level. Cumberland Bay, or bay of San Juan Bautista, on the north side is the principal harbor, but the water is too deep for safe anchorage in bad weather. This island was occupied by the Spanish in 1750 and taken by Chile when that country became independent in 1818. It was used as a penal colony prior to 1840. It has a population of about 300 which lives mainly by supplying water, wood and food to whaling and other vessels. Parts are fertile and produce vegetables, peaches, figs, grapes, etc., and originally there was considerable sandalwood, but it has all been taken. Plenty of fish are obtained from the surrounding waters and also a lobster (*Palinurus frontalis*) which is an important source of subsistence and also is canned for export in two factories. In 1914 a wireless station was erected. Just off the southwest corner of Mas a Tierra is the small, rocky island of Santa Cruz. Mas Afuera, six miles long by three and one-half miles wide, is very mountainous, its highest summit being 5,300 feet above the sea. It presents fine scenery and its remarkable flora makes a most distinctive landscape. The islands consist of Tertiary volcanic rocks in thick layers comprising a succession of lava flows and tuffs, mostly horizontal. The climate is more humid than that

of Valparaiso, with mild winters, moderate summers and frequent gales. The islands had no original wild land animals, but the flora is unique. Some Megallanic types have recently been found high on Mas Afuera. One remarkable plant, *gunnera*, has leaves 10 feet in diameter. The 'Robinson Crusoe' of Defoe is said to be based on the experiences of Alexander Selkirk, a Scotch sailor, who lived alone on the larger island from 1704–09.

JUAN DE FUCA, joo'ăn dĕ fū'kȧ (Sp. hoo-ăn' dā foo'kä), **Strait of,** an ocean passage between the State of Washington and Vancouver Island. It connects the Pacific with the Strait of Georgia on the north and Puget Sound on the south. It is 100 miles long and about 15 miles wide. It contains several islands, some of which were at one time in dispute between the United States and Great Britain.

JUAREZ, Benito Pablo, bä-nē'tō päb'lō hoo-ä'rĕth, Mexican statesman: b. San Pueblo Guelatao, Oajaca, 21 March 1806; d. Mexico, 18 July 1872. He was admitted to the bar in 1834; became a judge of the Civil Court in 1842; in 1847–52 was governor of the state of Oajaca, in which post he greatly improved provincial conditions; and after a period of exile (1853–55) joined the revolutionists under Alvarez, by whom he was later made Minister of Justice and Ecclesiastical Affairs. In 1855 he was appointed provisional governor of Oajaca by Comonfort, the successor of Alvarez, and in 1857 elected constitutional governor. He was made Secretary of the Interior and chief justice in the latter year (the office of chief justice being by the constitution the equivalent of a vice-presidency), and when Comonfort was driven from power (1858) duly succeeded to the presidency, was recognized by the Mexican states and the United States, but was opposed by the Conservatives in a long civil war and did not enter Mexico City until 11 Jan. 1861. In March he was elected President for a four-years' term. The bankrupt government published a decree suspending for two years the payment on the foreign debt and an alliance of intervention was at once entered into by England, Spain and France. On Juarez' agreement to protect the interests of foreign debtors, the English and Spanish troops evacuated the country, but France proceeded to a war of conquest. Juarez was driven to the extreme north and Maximilian assumed imperial power. Upon the interference of the United States, however, the French troops were withdrawn in 1867 and in the same year Maximilian was executed and Juarez elected President. He was re-elected in 1871. His vigorous and liberal policy was of great benefit to the nation and he has sometimes been called the "Mexican Washington." Consult Baz, 'Vida de Benito Juarez' (1874); and the 'Life' by Burke (1894).

JUAREZ CELMAN, Miguel, mē-gĕl' hoo-ä'rĕth säl-măn', Argentine statesman: b. Córdoba, Argentina, 29 Sept. 1844. He was graduated from the University of Córdoba in 1870 and after holding several political posts became governor of his province of Córdoba and in 1884 a senator in the national Congress. In 1886 he was chosen President and the speculation rife during his administration, as well as the inflation of the currency and the magnitude of the public works undertaken at this time, induced a financial panic in 1890. The Celman administration was held responsible for this disaster and the President himself charged with having amassed a fortune from sums known to have been taken from the treasury. The cabinet resigned, but revolt broke out in Buenos Aires 26 July 1890, and fighting in the streets continued for several days. On 6 August, however, the President resigned and the Vice-President, Pellegrini, assumed his duties for the remainder of the term.

JUBA, jōō'bă, an Afriçan king who flourished during the supremacy of Cæsar in the affairs of Rome. He was ruler of Numidia. When open hostilities broke out between Pompey and Cæsar he sided with the former and defeated the forces of Cæsar under Curio (49 B.C.). He also extended aid to two of Pompey's other backers, Scipio and Cato. He committed suicide, after the battle of Thapsus, which marked the definite defeat of the Pompeian party (6 April 46 B.C.).

JUBA, a Numidian king, son of the preceding ruler of the same name: d. 19 B.C. After the suicide of his father, he was taken to Rome by Cæsar where he was given an excellent education. Octavius, by whose good will he had been enabled to marry a daughter of Antonius and Cleopatra, sent him back as king of Numidia (30 B.C.). This latter country was made a Roman province in 25 B.C. and Juba was made king of Mauretania. Apparently the exchange suited him as he was very much given to literary pursuits. Although all his works have been lost, he is known to have written extensively on philology, Roman history and painting. He was especially interested in the languages of Assyria, Libya and adjoining countries. Consult Lübker, 'Reallexikon des klassischen Altertums' (Leipzig 1914); Sandy, 'History of Classical Scholarship' (Cambridge 1908).

JUBA ISLANDS. See DUNDAS ISLANDS.

JUBA RIVER, East Africa, flows into the Indian Ocean at about lat. 0° 5' S., formed to the north of 3° N., by the junction of several streams, mainly the Webi Ganana or Ganale Gudda, rising about 7° N., 38° E., and forming from 6° N. downward, S.E. and S., part of the frontier of British East Africa. By the Anglo-Italian agreement of 1891 all the seaboard north of the Juba was ceded to Italy, and the river became the dividing line between British territory and Italian Somaliland. It is navigable by small steamers to about 20 miles above Bardera (Bal Tir).

JUBÆA, a genus of palms named after Juba, king of Numidia (q.v.). It is closely allied to the coconut. The Jaggery palm of Chile which belongs to this family often is 60 or more feet in height. From the sap of this latter plant the native Chilean palm honey (miel de palma) is made. The Jubæa also furnishes an edible nut.

JUBAINVILLE, zhu'băn'vēl, **Marie Henri d'Arbois de,** French historian and philologist: b. Nancy, 1827; d. 1910. Graduating from the Collège Royal at Nancy and the University of Königsberg he entered upon the practice of law in Paris (1850), where he became archivist for the department of Aube (1852–80), and professor of Celtic languages and literature at the

Collège de France (1882). He edited 20 volumes of the *Revue Celtique*. He was the recipient of numerous honors and distinctions, among them being that of Officer of the Legion of Honor, and member of the Académie des Inscriptions et Belles-Lettres. Among his published works are 'Etudes sur les abbayes cisterciennes' (1858); 'Répertoire archéologique du départment de l'Aube' (1861); 'Histoire des duces el Comtes de Champagne' (7 vols., 1859–66); 'Cours de littérature celtique' (12 vols., 1883–1902, with the help of other writers); 'Eléments de la grâmmaire celtique, déclinacion, conjugaison' (1903); 'Les Celtes depuis le temps les plus anciens jusque en l'an 100 avant notre ère' (1904); 'La famille celtique' (1905); 'Les Druides et les dieux celtique à forme d'animaux' (1906).

JUBAL, joo'bal, or **JABAL,** son of Lamech and Adah. According to Genesis iv, 21, the inventor of the reed-flute and harp, or lyre, and the father, or predecessor, of all those who play upon such instruments, that is, the discoverer of musical science.

JUBILATE, jū'bĭ-lā'tĕ, third Sunday after Easter. The name is derived from the opening words of the 66th psalm, which forms part of the Mass on that occasion. In the Church of England and the Protestant Episcopal Church the same name is given to the 100th psalm which is chanted at the morning service immediately before the Creed.

JUBILEE, an observance among the Jews (from Heb. *Jobel,* i.e., the "ram's horn") which recurred every fiftieth year; the land was to rest, as in sabbatical years; land and houses in the open country and in unwalled villages reverted to their original owners or the heirs of such; all slaves were to go free. The law as a whole was distinctly theocratic; it vindicated the absolutism of Jehovah; it meant that Hebrews were the servants of Him, and could not therefore continue to be the slaves of their fellow-men; the land belonged to Him, and was only lent to the Hebrew tribes and families, who could not therefore be driven out by any human arrangement.

In the Roman Catholic Church a jubilee occurs every 25th year in which the Pope proclaims a remission, from Christmas to Christmas, of the penal consequences of sin, on condition of repentance, restitution and the performance of certain pious works. The first Roman Catholic jubilee was given in 1300. Ordinarily, the term is applied to any 50th anniversary.

JUBILEES, Book of. A pseudepigraphal production written in Hebrew by a Pharisee sometime between the accession of Hyrcanus to the priesthood 135 B.C. and his breach with the Pharisees 105 B.C. It is an attempt to rewrite the history of Israel and include with it a vast amount of traditional lore. The object of the author was, as R. H. Charles states it, to "defend Judaism against the attacks of the Hellenistic spirit that had been in the ascendant one generation earlier and was still powerful, and to prove that the law was of everlasting validity." The book has been known by other titles: 'Jubilees'; 'The Little Genesis'; 'The Apocalypse of Moses'; 'The Testament of Moses'; 'The Book of Adam's Daughters,' and 'The Life of Adam.' It consists of 50 chapters and besides the historical element it introduces the Messianic hope of Israel. It was translated from the Hebrew into the Greek and may also have been in the Aramaic. Four manuscripts of the book are preserved in the Ethiopic. C. F. A. Dillman has translated it into the German and G. H. Schodde and R. H. Charles have each translated it into English. R. H. Charles lists a bibliography of 31 titles of "Critical inquiries" concerning the book. Consult especially Charles, R. H., 'The Book of Jubilees' (London 1902); also Vol. II of his larger work on 'The Apocrypha and Pseudepigrapha of the Old Testament' (Oxford 1913).

JUCHEREAU, zŭsh'rō', **Louis, Sieur de Saint-Denis,** a French-Canadian soldier: b. Quebec, 1676; d. 1731. He became a soldier in Louisiana, where he served, on several occasions, as intermediary between the representatives of the government and the Indians. He became commander of the fort at the mouth of the Mississippi (1700). Later on he went to Mexico where he arranged a treaty with the viceroy for the encouragement of commerce (1714–16). Three years later he was in command of a band of Indians at the battle of Dauphin Island where the Spaniards were defeated (1719). He became commander of Nachitoches fort in 1720 and 11 years later he defended it from an attack of Naches Indians whom he overwhelmingly defeated.

JUDAH (Hebrew, Yehūdāh, celebrated), fourth son of Jacob and Leah, and the traditional ancestor of the tribe which bears his name. In Genesis he is said to have advised the selling of Joseph into Egypt. That the Biblical account given of Judah was derived from traditional history there seems little doubt; but these latter accounts appear to have been dressed up to suit the readers of the times in which the commitment to paper was made. Just how much, therefore, of the account of Judah, that has come down to modern times is historical, semi-historical or purely traditional or mythical it is very hard to determine. According to the Biblical record Judah married a woman of the Canaanites by whom he had three children, Er, Oman and Shelah. By his daughter-in-law, Tamar, he also had two sons, Pharez and Zarah. See JUDAH, TRIBE OF.

JUDAH I, a noted Jewish rabbi, scholar and expounder of the law: b. about 175; d. 219. He was the son of Simon II, and on the death of the latter he became president of the Sanhedrin to which he had been admitted in his youth on account of his extensive knowledge of Jewish law. His wealth, position and talents enabled him to control, in a thoroughly arbitrary manner, all the actions of the Sanhedrin which he made the centre of much of his religious activity. His home at Sepphoris became the shrine to which thousands went in search of knowledge. From there he exercised a strong and widely extended influence. There he lectured and the textbook which he wrote for these lectures ultimately acquired such an authoritative position that it was used as the basis for the compilation of the Talmud. Judah was known, during his life, as "The Rabbi," and as the prince (Ha-Nasi); and after his death he was remembered as "the holy one" (Ha-Kadosh).

JUDAH, Ben-Samuel (Arabic Abu'l-Hasan), a Spanish-Jewish poet and philosopher: b. Castile, about 1086; d. after 1140. Graduating in medicine he practised his profession for a while, but he seems to have finally abandoned it to devote his time to philosophy and poetry. His reputation as the greatest Hebrew poet of the Middle Ages was gained largely through his poems of longing for the home of his race. Finally he set out from Toledo in 1140 with the avowed intention of visiting Jerusalem, a journey from which he never returned. In his own day and for many years afterward he was looked upon as a great philosopher; but his fame to-day rests almost entirely upon his poetical work; for he was too much of a poet to be a deep and formal philosopher or theologian. His principal philosophical work is 'Al-Kha-zari,' which purports to expound, in Arabic, the principles of Christianity, Islam and Judaism and to present the philosophy of Aristotle. There are two translations of this work in German, the better of which is by Hirschfeld (Breslau 1885). Many of his poems have also been published in German and Emma Lazarus has translated some of them into English (Boston 1899). Others are also to be found in 'Songs of Exile,' by Nina Davis (Philadelphia 1901). Consult Kaufman, David, 'Jehuda Helewi' (Breslau 1877).

JUDAH, Ben Samuel, Jewish mystic: b. Speyer, probably about the middle of the 12th century; d. 1217. His school at Ratisbon, founded in 1195, became noted far and wide and was attended by many pupils destined to become famous and influential. So noted did he become as a moralist and mystic that many works appear to have been ascribed to him in which he had no part. Among the numerous works attributed to him, he appears to be the author of 'Sefer ha-kabod' (the 'Book of the Divine Majesty'); 'Sefer Hasidirn' (the 'Book of the Pious'); and a commentary on the Pentateuch. The latter, which has been lost, is known only by references to it in more recent works and in citations from it in later commentaries. The 'Book of the Pious,' which is considered his most important work, is partially a treatise on morality and mysticism; in which a fine distinction is made between the "divine Majesty" which is revealed to angels and men, and the "divine Being," who is not so revealed to humanity because he is too infinitely great for all human conception. This work became the text for the Judah sect which placed great stress on this fanciful distinction between the "divine Majesty" and the "divine Being." Critics are now inclined to dispute Judah's authorship of all of this work except the first 26 sections. Judah Ben Samuel had a great influence over his followers, not so much on account of the originality of his thought and the accuracy of his reasoning and philosophical speculations as because of his deep earnestness, his loftiness of aspiration and his real nobility of character. This influence was increased by his strong desire and tireless efforts to discover the great truths of the Bible and the hidden meaning of its priests, prophets and philosophers. Consult Grätz. 'Geschichte der Juden' (Vol. VI, Leipzig 1894); Schlossinger, 'Juda Ben-Samuel' (in the 'Jewish Encyclopedia,' New York 1914); Zung, 'Literaturgeschichte der Synagogalen Poesie' (Berlin 1864).

JUDAH, Tribe of, one of the Israelitish clans most frequently mentioned in the Bible. It is supposed to have had a strong Canaanitish admixture; and by some critics the story of Judah's marriage to a Canaanitish woman is believed to be but an anecdotal method of recording this fact of the introduction of foreign blood into the family. In the days of David the tribe of Judah comes, for the first time, into prominence. The book of Joshua states that the land of Judah extended from the Mediterranean to the Dead Sea, including in its territory the plain of the Philistines. It bordered on the land of Benjamin on the north. The land of Judah, of a rugged, hilly character, tended to separate the tribe from the other Israelitish clans; and this may account for the fact that it does not receive prominence earlier in Biblical history. The kingdom of Judah, brought into prominence by David, does not correspond in extent to that recorded in the book of Joshua, since the latter embraced the Jerahmeelites, Kenites, Kenizzites, part of the original tribe of Judah and some other small tribes. At no time in history is there a verified record of the tribe of Judah having actual possession of the plain of the Canaanites; though they may have done so in prehistoric times and have still preferred a claim against it. This seems probable from the aforementioned statement in the book of Joshua. The tribe of Judah, which was among the Jews who were carried into Egypt, seems to have prospered there, for when the Israelites left the latter country, it outnumbered all the other Jewish tribes, having 74,000 adult males, this being 12,000 more than Dan, the next most numerous tribe. After the hardships of the long journey home through the desert, the tribe of Judah still numbered 76,500 able-bodied men of fighting age. The clan totem of the tribe of Judah was a lion's whelp, which was later on converted into a standard with the motto "Rise up, O Lord, and let thine enemies be scattered!" In the person of David, the tribe of Judah became the ruling clan; but this superiority was disputed by Ephraim, especially after the removal of the head sacerdotal functionaries to Jerusalem; and the result was the setting up, by the latter, of a separate ecclesiastical establishment. Judah lost its identity as a tribe under Rehoboam and Jeroboam, when the ancient kingdom was divided and the clan of Judah became identified with the kingdom of Judah, which included the tribes of Judah and Benjamin and a large body of Levite priests. Consult Haupt, 'Studien' (Giessen 1914); Meyer, E., 'Die Israeliten und ihre Nachtbarstämme' (Halle 1906); Schmidt, N., 'The Jerahmeel Theory and the Historical Importance of the Negeb' (in the *Hibbard Journal,* 1908, pp. 322-342); Wellhausen, 'De gentibus et familiis Judæorum' (Göttingen 1869); Winckler, 'Geschichte Israels' (Berlin 1895). See JUDAH; BENJAMIN; JEWS AND JUDAISM.

JUDAISM. See JEWS AND JUDAISM.

JUDAIZERS, jū'dā-īz'-erz, certain early Christian converts who insisted on retaining the rites and ceremonies of the Jewish law. They were naturally Jews; and among the concessions that they insisted should be made to them

as new Christians was permission to observe the rite of circumcision. The Apostolic Council decided that these Jewish customs were not binding on Christians under the new gospel dispensation. Paul opposes the views of these Jewish converts very strongly in the letter to the Galatians. See PAUL; EBIONITES; NAZARENE.

JUDAS, JUDA, or **JUDE,** one of the brothers of Jesus. Practically nothing is known concerning him save the meagre details found in the New Testament and what has come to us from tradition. Some scholars assume that, according to John vii, 7, Judas and the other brethren did not believe in the Messiahship of Christ until after the Resurrection (Acts i, 14). That he was a married man we would infer from Paul's writing (1 Cor. ix, 5). Scholars ascribe to him the authorship of the Epistle of Jude wherein he speaks of himself as "the servant of Jesus Christ." See JUDE, EPISTLE OF.

JUDAS, or **JUDE,** one of the 12 apostles. He appears in the apostolic catalogue of Saint Luke as "Judas of James" that is, son or brother of James; in Saint Mark's and Saint Matthew's list he is styled Thaddæus, of which Judas may be an abbreviation. Nothing is known of his life except what is ascribed to him by widely spread tradition. According to Western legend he went in company with Simon the Canaanite to evangelize the Persians, and closed his life by martyrdom.

JUDAS BARSABBAS, the companion of Silas in the bearing of a decree from the apostles and elder brethren to the brethren in Antioch, Syria and Cicilia, according to Acts xv, 22–23. He has been supposed, without satisfactory proof, to have been a brother of Joseph Barsabbas. All that is definitely known of him is that he was a member of the Jerusalem church, that he was a man of influence in his community and that, furthermore, he was looked upon as a prophet.

JUDAS OF GALILEE, a Jewish popular leader who led an uprising against the Roman power about 6 or 7 A.D. According to Acts v, 37, he was killed and his followers dispersed; but Josephus, who records the insurrection, which according to the Acts was at the time of the census, states that Jacob and Simon, two sons of Judas, were put to death; but he gives no information as to the fate of Judas himself.

JUDAS ISCARIOT, ĭs-kăr'ĭ-ŏt (that is, of the family of Cariot in the tribe of Judah). One of the 12 apostles of Christ. He is styled the son of Simon, and was treasurer to the little company that attended Jesus, whom he betrayed, with a kiss, into the hands of the Jewish priests, for 30 pieces of silver. His divine Master addressed to him the mild reproof—"Dost thou betray the Son of Man with a kiss?" Remorse drove him to suicide.

JUDAS MACCABÆUS, Jewish warrior and national hero, who flourished in the 2d century B.C. He was one of five sons of Mattathias, a Joarib priest of Modin, not far from Jerusalem. The father, in 168, killed the officer in command of the troops sent to Modin to overthrow the Jewish religion, and, with his five sons, took to the mountains. On the death of Mattathias, shortly afterward, Judas became the recognized leader of the revolt, which he managed with very great skill and military wisdom which enabled him to defeat, in succession, four Syrian armies, each of them much stronger and better armed than his own mountaineers. After three years' successful warfare he again established the headquarters of the Jewish faith in the temple at Jerusalem. Judas Maccabæus disputes with David the honor of being the greatest of the Jewish national military heroes. In so high esteem was he held that the memory of his great achievement was kept green by means of a commemoration service in the annual Feast of Dedication. His brothers, too, seem to have been highly honored on account of the heroic part they had all played in the war of liberation; and one of them, Jonathan, became high priest. Under the leadership of Judas Maccabæus, the Jews undertook extensive military campaigns against their enemies on all sides, and with signal success which resulted in the conquest of some and the punishment of others. These warlike expeditions reached into the territory of the Arabs. In 164 B.C. Lysias, the guardian of Antiochus V, determined to punish this activity of the Jews; and to this end he marched against Jerusalem with a picked force of 100,000. Judas found himself unable to oppose a force so much larger than his own. But chance came to his aid in the shape of troubles in Antioch which forced the return of Lysias. Taking advantage of the circumstance and the occasion, Judas secured from the Syrian government recognition of the rights of the Jews to exercise their own religious worship. In the eyes of his followers, this was perhaps his greatest victory. But not content with this, he attempted to secure the recognition of the political independence of his country. But the intrigues of the Syrian party in Jerusalem and the quarrels among his own people weakened his own power in both a moral and a military sense. Though he signally defeated a Syrian army under Nicanor and fought a very successful campaign (163–62 B.C.) the discontent at home increased and tended greatly to weaken his organization and military strength to resist a second and still more formidable Syrian army, against which he fell in battle at Elasa (161 B.C.). He was succeeded by his brother Jonathan, the high priest (q.v.). See MACCABEES.

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JUDAS MACCABÆUS, an oratorio of Handel which was first produced in London in April 1747; and in Boston, United States, in December of the same year. See HANDEL.

JUDAS TREE, a tree so named because of the tradition that upon one of this family Judas hanged himself. The *Cercis siliquastrum,* the common European Judas tree, is to be found throughout southern Europe and Asia; while the American member of the family,

Cercis canadensis, is a much hardier tree and is found in northern regions. It is, however, very similar to the Old-World species. The dark-veined wood of both species takes a fine polish. Two other species are known in the United States, the *Cercis occidentalis*, found in the West, and the *Cercis chinensis* introduced into the country from Japan.

JUDD, Charles Hubbard, American psychologist: b. Bareille, British India, 1873; and at the age of six he was sent to the United States, where he graduated from the Wesleyan University 15 years later. After a two years' course in philosophy in Leipzig he taught philosophy in his native college until 1898, when he became professor of psychology in New York University. From 1901 until 1909 he was successively in Cincinnati and Yale universities, when he went to Chicago University as director of the school of education. Among his pubished works are 'Genetic Psychology for Teachers' (1903); 'Psychology' (1907); 'Laboratory Manual of Psychology' (1907); 'Laboratory Equipment for Psychological Experiments' (1909); 'Psychology of High School Subjects' (1915).

JUDD, Garritt Parmlee, Hawaiian statesman: b. Paris, Oneida County, N. Y., 23 April 1803; d. Honolulu, Hawaiian Islands, 12 July 1873. In 1828 he went to Honolulu as a medical missionary, and in 1842 was appointed recorder and interpreter to the native government. He organized the first Hawaiian ministry for Kamehamaha III in 1843, and held the portfolio of finance from 1844 until his retirement in 1853. He placed Hawaiian finance on a sound basis.

JUDD, Norman Buel, American statesman: b. Rome, N. Y., 1815; d. 1878. He began the practice of law in Chicago in 1836, where he soon became city attorney and was a member of the State legislature from 1844 to 1860. Going over from the Democrat to the Republican party in 1856, he became prominent in local politics and chairman of the Illinois State Central Committee, a position which gave him great influence at the Second National Convention at Chicago which, in 1860, nominated Abraham Lincoln for the presidency. Lincoln sent him, the following year, as Minister to Prussia, where his influence, for over four years, prevented the recognition of the Southern Confederacy. On his return home (in 1865) he was re-elected to Congress for two successive terms; following which he became collector of United States customs at Chicago. In his capacity of railway and corporation lawyer, in which he stood in the fore rank, he was closely connected with the projection and development of most of the great railways of the United States in his day. He was also a very active figure in the legislature. He took a prominent part in the impeachment of President Johnson and he was the author of the act which created inland ports of entry and provided for the shipment, in bond, of goods into the interior.

JUDE. See JUDAS, one of the brothers of Jesus.

JUDE, Epistle of. One of the so-called Catholic (i.e., general) epistles of the New Testament, whose author names himself "Jude, a servant of Jesus Christ, *but* a brother of James," thus reverently contrasting his blood-relationship to James, the head of the Jerusalem church (Acts xv, 13; xxi, 18; Gal. ii, 9, 12) with his higher relationship to Jesus (Mark iii, 34–35), who also was his and James' own brother (Matt. xiii, 55; Mark vi, 3; Gal. i, 19; 1 Cor. ix, 5) according to the flesh. The author describes his document as being an exhortation to his readers to "contend earnestly for the faith once for all delivered unto the saints," (3) and as taking the place of a treatise of a more general doctrinal character, on which he was engaged when occasion arose for this more direct form of address. That a dangerous situation had developed quite as ominous as that of which Paul forewarned both the Ephesians (Acts xx, 29–31) and the Philippians (iii, 18–19) "with tears," is obvious from the heightened tone of indignation, grief and loathing in which he refers to these latter day "wolves" who have "entered in, not sparing the flock." By what new system of theological doctrine the contagious immorality of the intruders was supported, the author assumes as too well known to his readers to require any detailed statement, but only a delineation of its fruits in resultant character and retribution. Only a precarious basis can, therefore, be found for any identification of the heresy with that of the Cainites, the Carpocratians or other Gnostic sects of the post-apostolic age. Similarly indecisive as to a late date are the citations in verses 9 and 14f. from such apocryphal books as *The Assumption of Moses* (7 to 30 A.D.) and *The Book of Enoch* (written before 170 B.C.); the necessary uncertainty as to the local habitat of the readers, whether Palestine, Syria or the Diaspora; and, the intimate relation of this document to the text of 2 Peter, in casting suspicion upon the claim made in verse 1 as to authorship.

In its biting invective and hortatory fervor this epistle equals if it does not surpass Galatians and 2 Corinthians. The interlopers are characterized as ungodly persons who, profesing godliness, have "crept in privily" to the "love-feasts" of the readers (iv, 12) only to "turn the grace of our God into lasciviousness" and to "deny our only Master and Lord, Jesus Christ" (consult Phil. iii, 18–19); as pretending to have received divine revelations, which their conduct demonstrates to have been vile, lascivious dreams (8); as flouting all authority, even that of angels, and railing at sacred mysteries which their carnal minds cannot understand (8–10); as continually swayed by ungodly lusts (16, 18) and sensual rather than spiritual in their judgments (19); as comparable therefore, to sunken reefs in a ship's channel or a foaming surf (Is. liii, 20) casting up mire and dirt; to clouds that bring no rain, or to fruit-trees fruitless in autumn, and fit only for winter's fire-wood (12) and to meteors disappearing in eternal night (13). The dissolute character and the impending doom of these corrupters of the Church, prefigured in the punishment of Israel in the wilderness (5); the fall of the angels (6); the fate of Sodom and Gomorrah (7); the legend of the archangel Michael (8–9); and the history of Cain, Balaam and Korah (11); were foretold in the prophecy of Enoch (14–15) and were explicitly

confirmed to them by the apostles of Christ (17–18). Re-enforced by this tragic warning, the epistle ends with a tender exhortation and a triumphant doxology (20–25).

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MARCUS D. BUELL,
Professor of New Testament Greek and Exegesis, Boston University School of Theology.

JUDEICH, yōō'dik, **Johann Friedrich,** German forester: b. Dresden, 1828; d. 1894. After extensive experience in the forestry departments of Saxony and Bohemia he finally became director at Tharandt, where he made his name widely known in forestry. Among his published works are 'Die Forsteinrichtung' (1903); and contributions to Lorey's 'Handbuch der Forstwissenschaft' (1887–88). He wrote for numerous periodicals and edited Ratzebury's 'Die Waldverderber und ihre Feinde' (7th ed., 1876; 8th ed., 1885–95); and other publications.

JUDGE, William Quan, Irish-American theosophist: b. Dublin, 1851; d. 1896. Coming to America in 1864 with his father he studied law and entered into legal practice with him in New York city in 1872. He was one of the founders of the Theosophical Society of America, to which he finally gave up all his time, traveling, as its secretary, throughout Europe and the American continents. See THEOSOPHICAL SOCIETY.

JUDGE, public officer to whom is committed the exercise of judicial power of the state in the administration of justice in its courts. It is his province to decide questions of law, and in cases in which facts are to be decided by a jury to instruct the jury as to the law which is applicable and to point out to them what the exact questions for their determination are. (See JURY). He pronounces the sentence, or enters the judgment, of the court.

The word is not a technical one. The officers of the King's Court, when that tribunal began to take definite shape, were known officially as justices. Until the recent Judicature Acts in England it was customary formally, as well as popularly, to speak of the judges of the superior courts at Westminster, though the members of the courts of King's Bench and Common Pleas were properly justices, and of the Court of Exchequer barons, and at the present time the members of the Supreme Court of Judicature, including the Lord Chancellor, the Lord Chief Justice, the Master of the Rolls and the Lords of Appeal are spoken of as the judges of that court. English judges are appointed by the Crown (this patronage being exercised by the Lord Chancellor, who is the head of the legal profession) from the leaders of the bar, and hold office during good behavior.

In all the Federal courts, in all the higher courts of the several States and in most of the inferior courts, judges must be trained in the law, though lay judges were common in the State courts of first instance until quite recent times. Federal judges are appointed by the President, by and with the advice and consent of the Senate, and hold office during good behavior, being removable only by impeachment. Any Federal judge who has served for 10 years and is 70 years of age may retire on full pay for life. The choice of judges in the States is determined by the State constitutions. As a general rule they are elected for a term of years. The fear was quite generally expressed at the time the tendency to make the office an elective one became general, that judges so chosen would be inferior to those appointed by the State governors, but does not seem to have been justified by the result. In most of the State courts the small salaries paid and the limited terms of office prevent the leading members of the bar from seeking, and in many cases from accepting, the office of judge.

A judge must be impartial and any interest in the cause or the parties will disqualify him from presiding at the trial. While in office he is precluded from practising before the court of which he is a member, and he is commonly, and should be universally, precluded from practising before any court. He is not answerable to any suitor for the correctness of his rulings or decisions, and in the absence of positive fraud is not answerable in damages for any decision he may render. Every judge has power to punish for contempt of court in case of acts committed during the court's session, and even of such acts committed outside the court, though this latter power is to be exercised with care, and its limits are naturally not defined with certainty. For the peculiar functions exercised by American judges as interpreters of the Federal and State constitutions, see JURISDICTION.

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JOHN DOUGLASS BROWN.

JUDGE-ADVOCATE, a title given the prosecutor in a court-martial or military commission. In the United States the judge-advocate is generally a member of the judge-advocate-general's department. In Great Britain the duties of judge-advocate usually devolve upon a detailed staff officer, or the prisoner's commanding officer. The prisoner has a right to call on any regimental officer to speak in his behalf. See LAW, MILITARY.

JUDGE-ADVOCATE-GENERAL, the head of the United States army bureau of military justice. He has the rank of brigadier-general and officiates as the legal adviser of the Secretary of War and of the Department of War. All European armies have a similar functionary and a similar department. The Judge-Advocate-General is the legal custodian of all general courts-martial, military commissions, courts of inquiry and papers relating to title of land under control of the War Department, except the public buildings and grounds in the District of Columbia.

JUDGE LYNCH. See LYNCH LAW.

JUDGES, Book of. This book in the Hebrew Bible derives its name from the deliverers whose exploits it records. In its present form,

the book is the product of that active era of historical interpretation inaugurated by the publication of Deuteronomy in 621 B.C. (See DEUTERONOMY). The narrative of the struggle between the Hebrews and the earlier inhabitants for the possession of the land furnished material especially adapted to exemplify the doctrine of Deuteronomy, that Israel's prosperous possession of the land was contingent upon her faithfulness to Jehovah. It was one of the first tasks of the historians who were dominated by the thought of the great law book to edit the stories of the Judges and compose the book now contained in chapters ii, 6–xvi. They had at hand for their purposes a history of the early heroes, which may have formed a part of the great, composite work already compiled from the histories of Judah and Ephraim (JE), or may have been a separate work. In any case, the earlier document contained some of the oldest and most authentic historical traditions of the nation. The Song of Deborah (Chap. v), for example, is the oldest considerable composition preserved in the Hebrew Bible. It must have been sung immediately after the events which it celebrates. Taking this priceless collection of hero tales, that had been gathered and combined in the three centuries preceding their time, the Deuteronomic editors introduced a heading and conclusion for each tale designed to enforce the great doctrine which they found so well exemplified in the varying fortunes of the times. When Israel forgot Jehovah and turned to other gods, her enemies prevailed; when she returned to him in penitence, a deliverer was raised up and peace secured throughout his rule. They introduced their readers to this new interpretation of the old stories by a summary statement of the facts and principles (ii, 6–iii, 6) which they were to find fully illustrated in the separate stories and their interpretation of each. Seven principal stories form the main body of the work, those of Othniel, Ehud, Deborah and Barak, Gideon-Jerubbaal, Abimelech, Jephthah, Samson. Of these leaders, Abimelech is styled a prince and king, rather than a judge; in truth the brief hereditary rule set up by this man and his son may be counted the first attempt at establishing a monarchy in Israel. Between the longer narratives short notices of six other judges are inserted. The little that is told of them is in the characteristic language and style of the editors. Perhaps they were included in order to bring the number of the judges to 12. To this original book, edited not far from 600 B.C., there was prefixed as an historical introduction an ancient account of the entrance into Canaan and of the failure of the tribes to dispossess the inhabitants (i, 1–ii, 5), and there were added two appendixes (xvii–xviii, xix–xxi) which did not receive the editorial interpretation characteristic of the body of the book. The former of these, telling of the migration of Dan to the northern borders of Israel's territory, is obviously a very old narrative, but the latter, the story of the outrage at Gibeah, gives many indications of a relatively late date.

Fortunately the exilic editors confined their interpretations of the history to the framework which they composed and left the stories themselves in their ancient form, so that they afford the student of Israel's early political, social, and religious development a mine of information and preserve for the general reader the rugged spirit of the pioneer days of struggle against many and varied dangers. The chronology of the book belongs to the editorial framework; it is based on the theory that the heroes ruled united Israel, whereas the stories themselves reveal the fact that the judges were local leaders in their different tribes and districts. Their lives may have been, in some cases, contemporaneous. An historical use of the book requires careful discrimination between its earlier and later elements, varying in date of composition by as much as 500 years.

From a literary point of view, the older portions of the book give some of the best specimens of rapid, picturesque narrative, full of human interest and of simple loyalty and faith toward Jehovah, which make Israel's early prose so vital, while the Song of Deborah ranks as one of the finest examples of a victory ode preserved in the early literature of any language. On the other hand, the completed book is a monument of great interest in the art of historical composition. It is perhaps our first important example of a deliberate interpretation of events long past from the standpoint of a conscious philosophy of history. The distinction so clearly visible between the naïve stories themselves and the rigid, solemn interpretation of the editors marks a great transition in the development of historical writing in Israel. Since Israel was the first people to develop a true historical literature, this transition is an important landmark in the story of the world's historical writing.

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HENRY THATCHER FOWLER,
Professor of Biblical Literature and History, Brown University.

JUDGES, Recall of. See RECALL.

JUDGES' CAVE, a crevice between some large fallen rocks on West Rock, New Haven, Conn., now a municipal park, which in 1661 was a temporary hiding-place for Goffe and Whalley, two of the English regicides.

JUDGES OF ISRAEL (Hebrew, shōphĕtīm), the leaders managing the affairs of Israel from Joshua to Saul. Their position was partially judicial and partially one of leadership, though the former function, as time went on, seems to have gained in importance at the expense of the latter. The names of these judges usually given are Othniel, Ehud, Shamgar, Barak, Gideon, Tola, Jair, Jephthah, Ibzan, Elone Abdon and Samson, an account of whose deeds and various administrations may be found in the books of Judges and First Samuel.

Some accounts add to these names those of Eli, Samuel, Deborah and Abimelech, making 16 in all. The recorded exploits and actions of these judges seem to be more tradition than real history. According to the records, these "judges" are supposed to have covered a period of 400 years, or an average of 25 years for each functionary, a considerable length of time for the conditions under which they must have held office and the dangers of the age. This average length of time is increased if the estimated period of 480 years for 12 judges is accepted, making 40 years of government for each individual. The functions, characters and actions of these judges were so different in individuals that modern critics are inclined to look upon them rather as legendary traditional or mythological heroes rather than as sober historical characters. Notably Samson has been looked upon as an old sun god; and Deborah, the prophetess, and Samuel, the powerful and influential seer, might well be traditional types of early semi-religious, semi-tribal leaders. See JUDGES, BOOK OF.

JUDGMENT, the decision rendered by the authority to which a question or issue has been submitted for determination. In a more restricted sense, the decision by a court of law of an issue raised by parties litigant, or the determination and declaration by such court of a legal right. There are many rulings by such a court which are not judgments, but determine merely some incidental question, and there are judgments which are interlocutory, as well as final judgments which put an end to the controversy. But every judgment in a judicial proceeding is an adjudication by the court of some right of a suitor, and until set aside or reversed, is the law governing such right.

In early times the solemn character of a court record and the means which the law furnished for the enforcement of an obligation thus established caused such a record to be adopted for the purpose of entering into an obligation as distinguished from resort to a court for the vindication of the obligation when disputed by the other party. A modern survival is found in the confession of judgment, by which a man causes his obligation to pay a sum of money to be entered upon the court records in the form of a judgment against him for the amount due. In consequence of the early practice — aided also by the fact that a judgment may be sued upon outside the jurisdiction of the court in which it was entered, like a contract — the older legal writers speak of judgments as a species of contract. But this classification has been shown to be unscientific by recent writers, since the courts have pointed out that these obligations are not contractual in either their origin or their incidents, and it is now customary to speak of them as *quasi*-contracts.

It is stated above that a judgment is interlocutory or final. In a suit for partition of real estate a judgment that partition be made is interlocutory, and is the basis of further proceedings which result in the final judgment establishing the partition. A final judgment is one which ends the controversy, at least as to some of the parties. It is a general rule that no appeal can be taken, except from a final judgment, and while there can rarely be a case of doubt as to the finality of a technical judgment, that is the decision rendered by a court of common-law jurisdiction, questions frequently arise as to the finality of decrees (which correspond to judgments) entered by courts of equity. The test is whether the right is finally settled by the decree; for example, when a creditor has claimed to intervene in an equity proceeding to establish his right to share in a fund being distributed, a decree excluding him is final as to him and appealable, though in all other respects the suit remains undetermined by the court below.

A judgment of a competent court having jurisdiction of the parties and the subject matter is conclusive, except so far as it may be the subject of appeal to a higher court. The direct issue thus determined will not be retried by another court, and such a determination cannot be attacked collaterally except on the ground of fraud or lack of jurisdiction of the court in which the judgment was rendered. A judgment *in personam* binds only parties to the cause and those in privity with them; a judgment *in rem*, which is a judgment determining the *status* of person or property, binds all the world. Decrees of courts of admirality are judgments *in rem* and conclusive of the *status* of the subject matter of the cause upon every one. Decrees of divorce are judgments *in rem*, and determine the *status* of the parties to the proceeding. In the United States they are pronounced by the State courts in the administration of very diverse statutes relating to the subject of divorce, and as the courts of all the States, in addition to the general principles of comity observed between courts of different jurisdictions, are bound by the mandate of the Federal Constitution requiring that "Full faith and credit shall be given in each State to the public acts, records and judicial proceedings of every other State" many perplexing questions have arisen. These cases afford good illustrations of successful collateral attacks upon judgments on the ground of fraud or lack of jurisdiction of the court entering the judgment. It is now well settled that a decree of divorce may be successfully attacked collaterally on the ground of fraudulent collusion between the parties or lack of jurisdiction of the court pronouncing it over the person of the defendant. It is to be observed that a final judgment is conclusive of the particular cause, and finally determines the right therein litigated, and may be pleaded in bar of any future attempt to assert the right, except in a case in which there has been no determination on the merits; as for example, where the plaintiff has suffered a voluntary non-suit, that is, has elected in advance of a verdict to abandon his case. He loses that particular case and must pay the costs, but is not prevented from bringing another action.

In most of the United States a judgment for a sum of money found to be due, from the date of its entry, and without the issuance of a writ of execution, constitutes a lien upon the real estate of the judgment debtor; that is, a claim which must be paid out of the proceeds of any judicial sale of the property in its due order of priority as compared with other liens upon the same property. This lien usually extends only to real estate within the jurisdiction

of the court in which the judgment was entered with provision for filing a transcript to create a lien in other countries of the same State in which the debtor owns real estate. A foreign judgment, in which are included the judgments of others of the United States, must be sued on and a judgment recovered upon it to make it effective in any of the States. In such suit no defense which could have been interposed in the original suit will be allowed to the judgment debtor.

JOHN DOUGLASS BROWN.

JUDIC, zhu'dīk, **Anna Damiens,** French actress: b. Semur, 1850; d. 1911. In 1868, shortly after her graduation from the Conservatoire, she became very popular at the Eldorado Theatre. In 1871 she visited Belgium; and then returned to the Gaité and other Parisian theatres where her popularity increased by leaps and bounds. Among her notable creations were Niniche, Mimi, Lili and Mademoiselle Nitouche. She made a two years' tour (1885–86) of the principal cities of Europe and the United States. Retiring from the stage for some time, she returned to it in 1898.

JUDICA, joo'dī-ka ("judge," or "give sentence"), the first word in the 43d Psalm, used as an introit in the Church of England (1549) for the 3d Sunday in Lent, and in the Roman Catholic Church for the 5th Sunday in Lent. Hence "Judica Sunday" as a term to designate those several days.

JUDICATURE ACTS, *in English law,* a number of statutes, dating from 1873, simplifying procedure and consolidating numerous courts into one Supreme Court of judicature. Demurrers were abolished, and important changes made in the rules as to the right of trial by jury. The acts in question are 36 and 37 Vict., c. 66, and 38 and 39 Vict., c. 77, with various amendments. A 12th amending act was passed in 1899. By the first of these acts the Court of Queen's (or King's) Bench, the Court of Chancery, the Court of Exchequer, the Court of Common Pleas, the High Court of Admiralty, the Court of Probate and the Court of Divorce and Matrimony were consolidated into one Supreme Court of Judicature, consisting of a High Court of Justice and a Court of Appeal. By these acts laws and equity were administered by the same court, and equitable defenses allowed in legal actions. Another object of these acts was to simplify pleading and practice, and this was done by abolishing the old forms of action. The former arbitrary modes of pleading were supplanted by concise statements of claim or defense. The House of Lords under these acts remains the highest court of appeal. In case a point of law is raised by the pleadings, it is left for settlement until the trial or until after the issues of fact have been disposed of. It is claimed by some that the abolition of demurrers and settling questions of law after the beginning of the action has led to great laxity and inaccuracy in pleading. Upon notice without order, either party has a right to trial by jury in actions of false imprisonment, malicious prosecution, slander, libel, seduction or breach of promise of marriage. By the act of 40 and 41 Vict., c. 57, a Supreme Court of Judicature was established in Ireland in 1878, and by this act and later ones, a substantially similar system to that of England is now in effect.

JUDICIAL DECISIONS, Recall of. See RECALL.

JUDICIAL DISTRICT. See DISTRICT.

JUDICIAL NOTICE, recognition by a court of some certain feature involved in an action as being self-evident and, therefore, in no necessity of proof. It is a very old doctrine in English and American law. The determining of what facts come under the term judicial notice is almost altogether in the hands of the court which is generally supposed to take judicial notice of the common and the public statute law, the public offices and officers, rules of courts, matters of public record in its own State, the State and the United States political constitutions; and, in addition, all other factors or claims which might, in reason, affect any decision to be made, such as the existence and title of foreign state and sovereign recognized by the United States and public proclamations of the national or State chief executive. In short, the court, in making its decision in case of judicial notice, is supposed to be fully and truly possessed of all the facts, conditions and bearings of the question at issue. The judge must at some time either previous to the trial or during it become convinced that the fact in question is self-evident and that it therefore does not admit of dispute nor require proof. This condition also applies to courts and juries, but the jury cannot take cognizance of a law without instruction from the court, since such is not the function of a jury. An appeal may be made to the appellate court against the decision of the court, and it may, if it finds reason therefor, reverse the judgment and order a new trial. See EVIDENCE.

JUDICIAL SEPARATION, the termination by process of law of the conjugal rights and obligations of husband and wife. In many countries where divorce is either not recognized at all or is very difficult to obtain, judicial separation affords a legal relief against, if not a remedy for, intolerable marriage conditions. It is therefore frequently resorted to in countries that are strongly Roman Catholic, owing to the stand taken by that Church against the dissolution of the marriage contract, which is considered in the light of a sacrament of religion. In most of the countries of Europe, where old customs, laws and traditions change slowly, the securing of a divorce is a very difficult matter, even where the provisions of the law make it possible; and here judicial separation is resorted to as affording quicker and easier relief and less public notice. This condition obtains in England and her colonies. In the United States, however, where many attempts have been made by the various States of the Union to regulate the question of the legal separation of man and wife, more or less liberal divorce laws have been placed upon the statute books of most of the States. In the legal sense of the term judicial separation is not a divorce since it does not dissolve the marriage bonds, but simply requires the contracting parties to live apart as though they were not husband and wife. Divorce, on the other hand, is the dissolution of the marriage ties. The parties to the divorce are generally

permitted to marry again, though the divorce decree sometimes prohibits one or both of them permanently, or for a certain specified time. In effect the judicial separation is, in many respects, similar to that of the decree of divorce. It destroys the right of husband and wife to cohabit (*consortium*) or to enjoy one another's society as married parties. As it has the result of making the parties to the judicial separation, in a legal sense, individuals, it relieves the husband of the support of his wife or of the payment of all debts and obligations contracted by her. But as the parties to the decree of judicial separation are still husband and wife, in the eyes of the law, neither, under the terms and intent of the decree, can marry again. Any such attempt would be legal bigamy and adultery. Nor does legal separation generally interfere with the property relationship of husband and wife or any business contracts, obligations or relationships they may have entered into previous to the decree of judicial separation. The husband, as the head of the family, is still the legal guardian of his children unless expressly deprived of this, or having voluntarily resigned it in the legal process of the securing of the decree. Although legally separated, the wife, on the death of her husband, has the same relation to him and his estate and other possessions as though no separation had taken place. The husband, in the same manner, in the case of the death of his wife, has all the rights given by the marriage contract. See DIVORCE.

JUDICIARY, the body of judges or magistrates who exercise their authority either singly or as tribunals, interpreting the laws which the legislatures make and the executives execute. The highest courts in all countries, and those mostly of an intermediate character, are held by a bench of judges, rather than by a single magistrate. Dominating all is usually a supreme court which determines all legal controversies of national concern. In nations under a federal system of government, the judicial power is usually divided between two separate and distinct classes of courts: federal courts exercising judicial power in respect to questions of national concern and state courts established for the determination of legal controversies of a local character.

The Judiciary Act of the United States Congress, 24 Sept. 1789 (1 Stat. 73), is nonembodied with the amendments in the provisions of the United States. The act established the Federal courts of the United States, defined their jurisdiction and powers and regulated procedure. The basis of the whole legal system of the country is the common law (q.v.), without which there would be an extraordinary variety of judicial organization and procedure throughout the nation, each State having its own separate and distinct judicial system and procedure; framed according to its own notions of its local needs and conditions. Above all other governmental departments the Federal judiciary especially, and the judiciary in general, command popular confidence and respect. The importance and political influence the judiciary possesses have been largely increased from the power which the American courts have attained in declaring statutes null and void when they are found to conflict with the Constitution. From the beginning this power has been recognized almost without dispute. While State judges are for the most part elected by the people, all Federal judges are appointed by the President with the advice and consent of the Senate. In regard to terms of judicial tenure, there is a great variety of opinion and practice throughout the United States. See COURT; JUDGE; SUPREME COURT OF THE UNITED STATES.

JUDICIARY AND EXECUTIVE. See EXECUTIVE.

JUDITH, Jewish heroine. She was the widow of Manasses, a citizen of Bethulia. When Holofernes, general of King Nebuchadnezzar, according to the book of Judith, besieged Bethulia, a city of unknown geographical position, she went armed with faith in Jehovah to the tent of the invader and was admitted because of her stately beauty. While he slept she cut off his head with his own sword and thus delivered Israel. This incident has been a favorite subject with artists, for in the first place the book of Judith is written with abundant literary point and skill and is naturally suggestive to the sculptor or painter. It is the subject of Donatello's bronze group in the Lanzi palace at Florence, and of many pictures, notably that of Cranach in the Dresden Gallery, and those of Horace Vernet, 'Judith on Her Way to Holofernes' and 'Judith in the Tent of Holofernes.'

JUDITH, zhŭ'dēt', **Julie Bernat,** French actress: b. Paris, 1827; d. 1912. She was a relative of Rachel (q.v.). She played in the principal theatres of Paris, making her début at Les Folies in 1845. Among her many successful rôles were Pénélope, Alcemène, Rosine, Charlotte Corday and Mademoiselle Aïsé. She was married to Bernard Derosne and with him made translations from English into French. Under the pen name Judith Barnard she wrote 'Le Chateau du Tremble' (1872).

JUDSON, Adoniram, American missionary: b. Malden, Mass., 9 Aug. 1788; d. at sea, 12 Aug. 1850. He was a member of the first American Board of Commissioners of Foreign Missions, consisting of five members. Sent to London to confer with the London Missionary Society, he was captured, on the way, by a French privateer and imprisoned at Bayonne. Released, later on, he proceeded to London and accomplished his mission. Returning to America, he and four other missionaries, Hall, Newell, Nott and Rice, were sent to India (or Burma) by the American Board of Foreign Missions (February 1812). In Calcutta Judson and his wife joined the Baptists, and their activities resulted in the formation of the American Baptist Missionary Union (1814). After considerable wandering, Mr. and Mrs. Judson settled in Rangoon (1813). Although they do not seem to have had very great success in gaining converts among the natives, the government, nevertheless, did not show itself at all friendly toward their efforts, which had netted them a score or more of converts in 11 years. On the breaking out of war between Burma and the East India Company, Judson was imprisoned for a year and seven months, and even then was released only on a peremptory demand on the part of Gen. Sir Archibald Campbell. After a year at Amherst in Lower Burma, he went

to Maulmain, where he was successful in founding a church. Returning to America in 1845 on account of his own ill health and that of his family, he went back to Rangoon in 1847, where he occupied a goodly part of his time in the preparation of a dictionary. Forced by returned ill health to leave the country, he was carried on board ship at Maulmain and died on the voyage four days later. His body was buried at sea. Judson was an indefatigable and tireless worker, and his work must be judged from two points of view, the aims actually accomplished and the general results of his labor upon conditions not only in the country in which he labored but upon all of India and Further India. In his 37 years of missionary labor he succeeded in gradually working up a sentiment in the East in favor of religious toleration which is to-day bearing fruit in many quarters. One of his most successful efforts was the organization of an extensive, trained body of native assistants to aid him in the translation of the Bible and other works into Burmese, and in the compilation of his Burmese-English and English-Burmese dictionary, Burmese grammar and Pali dictionary. These works, though intended primarily as aids for missionaries in Burma and the India countries generally, have been great aids to the study, by students and scholars of the languages of the East, in which Judson's missionary efforts and the publicity they had received had helped to increase the growing interest. Consult lives of Judson by his son, Edward Judson (New York 1883 and 1898); and by Wayland. See JUDSON, ANN HASSELTINE; JUDSON, SARAH HALL; JUDSON, EMILY CHUBBOCK.

JUDSON, Adoniram Brown, American surgeon: b. Maulmain, Burma, 7 April 1837; d. New York, 21 Sept. 1916. He was a son of the missionary Adoniram Judson. His mother was Sarah Hall Boardman Judson. He was graduated from Brown University in 1859, Harvard Medical School in 1860, Jefferson Medical College in 1865 and College of Physicians and Surgeons in 1868. He became assistant surgeon in the United States navy in 1861; surgeon in 1866 and resigned in 1868. Since then he had engaged in the practice of medicine in New York city. He was a specialist in orthopedic surgery, inspector of the New York board of health from 1869 to 1877; pension examining surgeon from 1877 to 1884 and from 1901 to 1914; medical examiner of the New York State Civil Service Commission from 1901 to 1909; orthopedic surgeon to the out-patient department of New York Hospital from 1878 to 1908. Dr. Judson was president of the American Orthopedic Association in 1891, member of the American Medical Association, Fellow of the American College of Surgeons, American Academy of Medicine and the Academy of Medicine and was a member of Lafayette Post, G. A. R. He wrote on medical and surgical subjects.

JUDSON, Ann Hasseltine, American missionary to India: b. Bradford, Mass., 22 Dec. 1789; d. Amherst, Lower Burma, 24 Oct. 1826. She was the wife of Adoniram Judson (q.v.), whom she accompanied on his first visit to India (1812) and with whom she labored as a missionary. She published a 'History of the Burma Mission.' Consult Knowles, 'Life of Ann Hasseltine Judson.'

JUDSON, Edward, American Baptist clergyman: b. Maulmain, Burma, 27 Dec. 1844; d. New York, 23 Oct. 1914. He was the son of Adoniram Judson (q.v.) and came to the United States in 1850 after the death of his father. He studied at Madison (now Colgate) University and was graduated from Brown in 1865. He was principal of the academy at Townsend, Vt. (1865–67) and subsequently professor of Latin at Madison (now Colgate) University. In 1875 he accepted the pastorate of the Baptist Church at Orange, N. J., then became pastor of the Berean Baptist Church, New York city, and later secured a site on Washington square, New York, and erected the Judson Memorial Church (in memory of his father), of which he was pastor. Here he built up an institutional church, with many different lines of work, including gymnasium classes, a dispensary and a children's fresh air fund. He lectured on theology at the University of Chicago, 1904–06, and on Baptist principles and polity at Union Theological Seminary, 1906–08, and was made professor of pastoral polity at Colgate in the latter year. In 1899 he published a 'Life' of his father, and he wrote also 'The Institutional Church.'

JUDSON, Emily Chubbock, American writer and missionary: b. Eaton, N. Y., 22 Aug. 1817; d. Hamilton, N. Y., 1 June 1854. She was the third wife of Adoniram Judson (q.v.) whom she married in 1846, and at once accompanied to India. Even at this time she had attained a reputation as a writer under the pen name of Fanny Forester. She wrote the life of Sarah Hall (Boardman) Judson, second wife of Adoniram Judson. On the death of her husband she returned to America in 1850. Ill-health prevented her continuing her literary labor. She, however, assisted Dr. Wayland in writing the biography of Judson. Consult Kendrick, A. C., who has written her biography.

JUDSON, Frederick Newton, American author, lawyer and educator: b. Saint Mary's, Ga., 1845. Graduating from Yale University and the Saint Louis Law School (1871) he became private secretary for Gov. Gratz Brown, when he entered upon the practice of law. He lectured at Washington University (1903), and was Storrs lecturer at Yale (1913). He has been counsel for the United States on several important occasions, and acquired a reputation as a corporation lawyer. Among his published works are 'Law Practice of Taxation in Missouri' (1900); 'The Taxing Power, State and Federal, in the United States' (1902); 'The Law of Interstate Commerce' (1905); 'The Judiciary and the People' (1913).

JUDSON, Harry Pratt, American educator: b. Jamestown, N. Y., 20 Dec. 1849. He was graduated from Williams College in 1870, was professor of history in the University of Minnesota 1885–92, professor of international law and head of the department of political science since 1892 in, and president since 1906 of, the University of Chicago. He is a member of the General Education Board since 1906, and member of the Rockefeller Foundation since 1913. He was chairman of the China Medical Commission 1914, and is a member of the China Medical Board since 1914. His works include 'Cæsar's Army,' a study of the military art of the Romans (1888); 'Europe

in the Nineteenth Century' (1894); 'The Growth of the American Nation' (1895); 'The Higher Education as a Training for Business' (1896); 'The Government of Illinois' (1900), etc.

JUDSON, Sarah Hall (BOARDMAN), American missionary to Burma: b. Alstead, 4 Nov. 1803; d. Saint Helena, 1 Sept. 1845, while on way home to United States. She married Rev. George Dana Boardman in 1825 and went with him to the Baptist missionary work in Burma. On the death of Boardman she was married to Dr. Adoniram Judson (q.v.) in 1834. She helped the latter in his religious and literary labors and acquired such a good knowledge of Burmese that she translated into it numerous tracts, Biblical selections and a part of the 'Pilgrim's Progress.' She also made a hymn-book in Burmese and supervised the translation of the New Testament into Peguan. Consult her life by Emily C. Judson.

JUDY, the wife of Punch, in the puppet show, Punch and Judy. See PUNCH AND JUDY.

JUEL, Jens, jōōl, yĕns, Danish statesman: b. 15 July 1631; d. 1700. He joined the suite of Count Christian Rantzau, with whom he visited Vienna and Ratisbon in 1652. Five years later Juel was sent as minister to the Polish court. Here he was not successful in deterring King John from making a separate treaty with Sweden. On Juel's return to his native country he was made privy councillor. About this time the misunderstanding between his uncle, Hannibal Sehested and Frederick III was composed and Juel's prospects were enhanced thereby. As his uncle's representative he negotiated the Peace of Copenhagen with Charles X. From 1660 to 1668 Juel was Danish minister to Sweden. Griffenfeldt, the chancellor, was a great admirer of Juel and on two occasions (1672 and 1674) sent the latter on special missions to Sweden with the avowed object of cementing closer relations between Sweden and Denmark but really to form an alliance with the former. Juel admired his chancellor's policy, which aimed at the weakening of Sweden and so forming a just balance between her and Denmark. Juel desired by all means to avoid a war with Sweden, the latter state being far the superior of Denmark in military strength. Despite his endeavors the unfortunate Scanian war broke out in 1675 and lasted for four years. At its close Juel was one of the Danish representatives who signed the peace treaty at Lund. At that conference he still aimed at the formation of an alliance with Sweden and afterward followed out this policy even bringing about the marriage of Charles XI and Ulrica Leonora, daughter of King Christian V. In 1680 Juel's plans for an amicable understanding with Sweden were upset by the death of Gyllenstjerna, the Swedish statesman who shared his views. In 1697 Juel represented his country at the coronation of Charles XII at which time he concluded a new treaty with Sweden. Juel was the shrewdest diplomatist of his time, taking for his motto: "We should wish for what we can get." He was greatly worried over the state of his country which he regarded as placed at the mercy of the Great Powers, a mercy as tender then as now! He opposed the establishment of an elastic political system and did all in his power to advance commerce and industry. The emancipation of the serfs Juel thought impracticable and about the only reforms he championed were a few petty changes in the agricultural system. He showed himself a faithful friend by remaining steadfast to Griffenfeldt in the latter's days of adversity. Consult article "Juel" in Bricka, 'Dansk biografisk lexikon' (Copenhagen 1887 et seq.).

JUEL, Niels, jōōl, Danish admiral: b. Christiana, 1629; d. 1697. Going to Holland in 1650, he served under De Ruyter and Tromp in the war against England and the Barbary states. He also fought with allied Dutch fleets against Sweden in 1659, and also in the later war with the same country in 1676, when being himself in command at the battle of Jassmund, he defeated, and swept the enemy's fleet out of the sea with a very much smaller number of vessels. The following year, with 25 ships to the Swedish 36, he again obtained the victory at the battle of the Bay of Kjöge.

JUENGLING, yŭng'lĭng, **Frederick,** American wood engraver: b. 1846; d. 1889. He was one of the founders and the first secretary of the American Society of Wood Engravers (1881). In his art he was one of the most consistent advocates and practicers of the new American system of wood engraving which substituted short broken lines, dots and so forth for the regulation long lines and regular sweep of the graver. He was a bold and clever workman and met with very considerable success. Consult Weitenkampf, Frank, 'American Graphic Art' (New York 1912).

JUG, a vessel of earth, glass or metal, used for holding liquids and characterized by having one handle and a lip for ease in pouring. The origin of the word is uncertain. In slang the term is employed to denote a prison, and there is not wanting evidence that in this latter sense it is an adaptation of the Latin *jug-um,* a yoke. In the United States the word pitcher has superseded jug to a great extent. The Metropolitan Museum, New York, and the British Museum, London, contain very fine examples of this kind of vessel, in the latter is a remarkable bronze jug found at Kumasi in 1896. It was made in England in the reign of Richard II, whose arms and badge it bears. It is furnished with a lid, handle and spout. The ewer is a jug with a broad lip and was formerly in general use at table for pouring water over the hands after meals, a practice very essential when we remember that table forks were still unknown. Much variety in form and design appears in the early specimens, some are balanced on three feet and some take the form of animals. The 18th and 19th centuries saw the production in England of pottery vessels known as "Toby Jugs," "Nelson Jugs," etc., usually in the form of a stout old man with a hat the corners of which form the spouts.

JUGGERNAUT, jŭg'ẽr-nât. See JAGANNATH.

JUGGLER (Old French, *jangleur,* Latin, *joculator,* joker, jester), a skilful and dexterous performer of feats of different kinds, including slight of hand (legerdemain). The juggler is or was to be found in all lands. He was a favorite with the Greeks and the Romans, and has been, for centuries, with the

Japanese and Chinese; and he has long been an institution in India, Further India, Persia and Tibet. The Aztecs and many other American native races had very skilful jugglers who seem to have been frequently connected with the religious or mythological beliefs of the peoples. Very skilful jugglers formed one of the most striking features of the elaborate court entertainments of Montezuma II, who was so fond of this sport that he had his own favorite private jugglers, some of whom were dwarfs and people otherwise deformed. See LEGERDEMAIN; FAKIR; FIRE-EATERS; JONGLEUR.

JUGLANDACÆ, the walnut family, dicotyledonous plants, native of the north temperate zone. Most of the 40 or more species of this family consist of trees, all nut-bearing and producers of excellent wood for cabinet and other work. The most valuable in this respect is the black walnut. The best known and most extensive genera are the *Juglans* or walnuts, and the *Hicoria* or hickories. The family is distinguished by alternate compound leaves.

JUGOSLAVIA, or **YUGOSLAVIA,** a term signifying the Southern Slav State (*jugo* comes from *jug* or *yug,* meaning south). The word derives from the geographical situation of the country, and includes the three branches of a single people known under the names of Serbians, Croatians and Slovenians. The area of the new state is about 75,000 square miles (nearly as large as England and Scotland together, or about two-thirds of the size of Italy). Its boundaries are formed by the Adriatic Sea and Isonzo River on the west, and the Hungarian Republic on the north. On the east it is bounded by Rumania and Bulgaria, and on the south by Greece and Albania. The provinces included in Jugoslavia are Serbia, Montenegro, Macedonia, Bosnia-Herzegovina, Croatia-Slavonia, Dalmatia, Carniola, Bachka, Banat and parts of Istria, southern Styria and southern Carinthia. The population within the border limits given above is estimated at 14,000,000 inhabitants, of whom 90 per cent are Slavs and 10 per cent belong to other nationalities, scattered on the borders: Rumanians, Albanians and Bulgarians.

The first attempt at Jugoslav unity, which the European War has consummated, dates from the 9th century. Ljudevit Posavski roused the Slavic people, fought the Franks and assembled under his authority the Croatians of Pannonia, the Slovenes and the Serbians of the Danube region (819–22.) During a very short time all the Jugoslav countries situated between the Sava and the Timok recognized a common sovereign. But this ephemeral realm was soon destroyed by the Frank and Byzantine powers. However, even discounting enemies from without, its existence would not have lasted long. Difficulty of relationship and communication in the Middle Ages prevented different parts of the same kingdom from becoming acquainted and known to each other. The least natural obstacle was an insurmountable barrier separating members of a single race.

It was thus that the Jugoslav provinces continued like fiefs hidden away in their geographical limits, ignorant of one another. Everything held them apart; the numerous rivers and mountains of the rough, hilly country; the ambition and independence of their grand feudal chiefs, for whom the natural isolation of their subjects was a necessity; rivalry between the two churches: the Catholicism of Rome and the Orthodoxy of Byzance, which split up and disputed over the Jugoslavs placed under their two-fold influence. But in spite of all these obstacles, a feeling for inter-communication was to be noted among the southern Slavs every time an idea of centralization agitated Europe. A Jugoslav prince arose who tried to realize the union of Serbs, Croats and Slovenes, Zvonimir, king of Croatia (1076–88), as also Dushan the Mighty (1331–55), emperor of Serbia, and Tvrtko (1351–91), king of Bosnia, who reunited for a little while the three crowns of Bosnia, Serbia and Croatia.

From the 16th to 18th century most Jugoslav provinces fell under the Turkish rule, and the only link which kept the southern Slavs together was their language and common literature, known under the name of the Ragusan literature. The feeling of national unity was reflected in the writings of Ivan Gundulić (1588–1638), George Križanić (1617–86), Jovan Raić (1726–1801), Urban Jarnik (1784–1844), Dositheus Obradović (1739–1811) and many others. Thanks to the efforts of all these writers and thinkers, the idea of southern Slav unity was already widely disseminated among the people. Religious intolerance had lost much of its force. Liberal and democratic ideas prevailed for the moment, and the principle of nationality was proclaimed. Not long afterward the introduction of railroads facilitated communication between the different provinces, heretofore divided by impassable mountains. From this time onward the idea of Jugoslav unity showed itself not only in the works and thoughts of individual men of letters but in the great achievements of militant nationalism as well. Serbia emancipated herself politically (1804) and with Montenegro became the centre toward which the eyes of all the southern Slavs involuntarily turned. Side by side with great political events arose an intellectual movement of equal importance and likewise tending strongly toward emancipation and national unity. The celebrated scholar, Vuk Karadžić (1787–1864), completely reformed the Serbian literary language by his introduction of the vernacular into literature as the only fit and worthy vehicle of the written thoughts of the nation. His reform found an echo in Croatia where Ljudevit Gaj (1809–72) and his fellow-workers adopted the same tongue. Among the Slovene writers, Stranko Vraz (1810–51) and other contemporary authors endeavored to adopt the Serbo-Croat tongue as their literary language. Thus the three separate literatures, known before as the Serbian, the Croatian and the Slovenian, were unified and have since then formed one southern Slav literature. The mental and spiritual union between the different branches of the nation assumed a definite form and at the end of the 19th century attained its full development.

At the beginning of the 20th century the Jugoslav movement was more intensively felt throughout all the provinces. In Serbia the Austrophile parties with the dynasty of Obrenović were overturned in 1903. In Croatia the movement was marked by the fall of the reactionary Ban Khuen-Hedervary, who for 20

years had tyrannized over this sorely-tried country. Bosnia-Herzegovina was freed from the absolutism of its administrator, Benjamin Kalay, by his death. In 1905 Dalmatia rid herself of the obnoxious rule of the governor, Baron Handel; and in Montenegro a constitution was introduced. Soon after these events economic relations with Vienna and Budapest were discontinued. Austria-Hungary annexed Bosnia-Herzegovina (1908), which action stirred up all the Jugoslav people. The approach of the storm was felt more and more. The Serbian national organizations openly demanded the evacuation of the annexed country by the Habsburgs. To justify its régime, Austria established a reign of prosecutions and false trials. She proposed to unite all the Jugoslav provinces, including Serbia and Montenegro, under the Habsburg sceptre. The southern Slavs became wrought up by such actions and avowed vengeance among themselves. In 1912 the Balkan Confederation was formed against both Austria and Turkey, and Turkish rule subsided with the ending of the Balkan wars. Whereupon Austria-Hungary wanted to fill the vacancy and to bridge over Austro-German rule into Asia Minor. To accomplish this purpose the government of Vienna induced the Bulgarians to break the Balkan League and to separate from the Slavic nations, which they accordingly did.

After the Sarajevo tragedy in 1914, the war between Austria and Serbia began. In the beginning of the war Serbia twice defeated the Austrian army, but in 1915, attacked by Bulgaria in the rear, and by the Austro-German forces to the north, she succumbed. The country was occupied by the enemy for three years. In 1918 Bulgaria was the first of the Central Powers to surrender to the Entente Powers. Whereupon the Austrian army was forced to evacuate not only Serbia and Montenegro but all the other Jugoslav provinces. National councils of the Serbs, Croats and Slovenes elected a central executive committee to establish a sovereign Jugoslav state. This convention was held in Geneva during November 1918, bringing a resolution to set up a national government representing all the Jugoslav provinces and preparing ground for the election of a constituent assembly. In Montenegro a National Assembly met in the city of Podgorica, dethroned its king, Nicholas, and decided to join the Jugoslav union. The Allied Powers, Great Britain, France and the United States, first encouraged the unification of Jugoslavia, and later on gave a more definite form to their recognition. On 7 Feb. 1919 the United States government, through its Secretary of State, issued a formal statement of the following content: "On 29 May 1918, the Government of the United States expressed its sympathy for the nationalistic aspirations of the Jugoslav races, and on 28 June declared that all branches of the Slav race should be completely freed from German and Austrian rule. After having achieved their freedom from foreign oppression, the Jugoslavs, formerly under Austro-Hungarian rule, on various occasions expressed the desire to unite with the kingdom of Serbia. The Serbian government, on its part, has publicly and officially accepted the union of the Serbian, Croatian and Slovenian peoples. The Government of the United States, therefore, welcomes the union, while recognizing that the final settlement of territorial frontiers must be left to the Peace Conference for adjudication according to the desires of the peoples concerned."

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MILIVOY S. STANOYEVICH.

JUGULAR (joo'gū-lạr) **VEIN,** one of the large trunks by which the greater part of the blood that has circulated in the head, face and neck is returned to the heart. There are two on each side, an external or superficial and an internal or deeper.

JUGURTHA, joo-gėr'thạ, king of Numidia: d. Rome, 104 B.C. He was a natural son of Masinissa. Micipsa, his father's brother, and king of Numidia after Masinissa (149 B.C.), adopted him and brought him up with his own sons, Adherbal and Hiempsal. Micipsa did his best to conciliate him, and declared him joint-heir to the crown with his two sons. But after the death of Micipsa, Jugurtha had Hiempsal murdered and drove Adherbal from the country. Adherbal appealed to Rome, and after several Roman expeditions into Numidia, Jugurtha was captured (106 B.C.), led in the triumph of Marius at Rome, and finally thrown into a dungeon, where he was starved to death.

JÜHLKE, yul'kĕ, **Ferdinand,** German horticulturist: b. Barth, Pomerania, 1815; d. 1893. In 1854 he became royal horticultural inspector in charge of an experimental station; and four years later he became owner of a private horticultural establishment in Erfurt, which he han-

dled so successfully that he was appointed director of the Prussian Royal Gardens (1866–91). Among his numerous and important works are 'Gärtnerische Reiseberichte' (1853); 'Gartenbuch für Damen' (1874, 3rd edition); 'Ueber die Stellung der Botanik zur Landwirtschaft und zum Gartenbau' (1865); 'Die königliche Gartnerlehranstalt und Landesbaumschule' (1872). He edited the *Eldenaer Archiv* (1854–59); and Schmidlin's 'Blumenzucht im Zimmer' (1880, 4th ed.).

JUIF ERRANT, zhwēf ĕr-ăn, **Le,** a romance written by Eugène Sue in 1845. It has been translated into all the languages of Europe; and in English it bears the title 'The Wandering Jew.' See WANDERING JEW, THE.

JUJUBE, joo'joob, a spiny and deciduous shrub of the family *Rhamnaceæ, Zizyphus jujuba,* a native of Syria, whence it was introduced into Europe. The fruit is blood-red or saffron-colored, with a sweet, granular pulp. The species of the genus are numerous, and of several the fruit is wholesome and pleasant to eat, both fresh and dried, and forms an article of commerce; and in southern Europe it is used at table in desserts as a dry sweetmeat. *Z. lotus,* which gave its name to the ancient Lotophagi, a shrub 2 or 3 feet high, is a native of Persia and the north of Africa. Its berries, which are about as large as a cherry, are collected for food by the Arabs of Barbary, are made into cakes, and a kind of wine is sometimes made from them. *Z. spina-christi,* or Christ's thorn, is said to have furnished the branches of which Jesus' crown of thorns was made.

JUJUY, hoo-hwē', Argentina, a province situated in the extreme northwest of the republic, between Bolivia and the province of Saltá. Nearly the entire area, estimated at 18,977 square miles, is occupied by mountains in which are extensive deposits of gold, silver, copper, mercury, salt, petroleum and asphalt. This mountainous section is a continuation of the great Bolivian table-land, and here the climate is cold, and the vegetation poor. Fertile valleys in the eastern part of the province produce sugar-cane, wheat, tobacco and rice. The climate in this portion is hot and moist. There are immense forests and an abundant supply of water. The Rio Grande de Jujuy traverses the province and reaches the Paraguay, through the Rio Bermejo. In the elevated plateau known as the Puna de Jujuy are two large lakes, Toro and Casabindo, the latter of which produces great quantities of salt. The provincial capital, also called Jujuy, a town of about 6,000 inhabitants, is connected by railway with Buenos Aires, and has two banks, a custom-house, a national college, a normal school for girls, and seven public schools. The population of the province is about 65,000.

JUKES, The, the name given to a family of New York State that had an unusual record of crime and pauperism. In 1874, Mr. R. L. Dugdale, while making investigations in behalf of the New York Prison Association, found several of the same family imprisoned for various crimes. Becoming interested in the subject, he traced the history of the family through several generations; they were descendants of the two sons of a backwoodsman, called Max, who married two of the Jukes sisters, one of whom is known as "Margaret, the Mother of Criminals." Exact information was obtained in relation to 709 out of the 1,200 descendants and blood relations; of these, 140 had been imprisoned for crime, 280 had been paupers, dependent upon public support, and the large majority were of low physical and moral standard. Consult Dugdale, 'The Jukes.'

JUKES, Joseph Beete, English geologist: b. near Birmingham, 1811; d. 1869. He became geological surveyor of Newfoundland (1839–40); and, in 1842, naturalist to H. M. S. *Fly* engaged in exploring the east coast of Australia and part of New Guinea. Four years later he did excellent work on the Geological Survey of Great Britain (1846–50); and on that of Ireland; after which he became professor of geology in the Royal Dublin Society and the Royal College of Science of Dublin. Among his numerous published works are 'Excursions in and about Newfoundland' (2 vols., 1842); 'A Sketch of the Physical Structure of Australia' (1850); 'Popular Physical Geology' (1853); 'Students' Manual of Geology' (1857), of which numerous editions have been issued.

JUKES-BROWN, Alfred John, English geologist: b. Penn Fields, 1851; d. 1914. He was a member of the Geological Survey most of his active life (1874–1902). He investigated the upper cretaceous rocks of Great Britain and the geology of the Barbadoes. Among his published works are 'Student's Handbook of Physical Geology' (1884); 'Historical Geology' (1886); 'Stratigeographical Geology' (1902); 'The Building of the British Isles' (1888); 'The Cretaceous Rocks of Great Britain' (3 vols., 1902).

JÜLG, yulk, **Bernhard,** German philologist: b. Ringelbach, 1825; d. 1886. He was educated at Heidelberg and Berlin, graduating in 1848. He became a teacher and finally professor of classical philology at Lemberg (1851), Cracow (1853) and Innsbruck (1863), where he made a special study of comparative philology and Oriental folklore. Among his published works are 'Litteratur der Grammatiken, Lexika und Wörtersammlungen aller Sprachen der Erde' (1847); 'Die Märchen des Siddhi-kür' (1866); 'Mongolische Marchen' (1867); 'Ueber Wesen und Aufgabe der Sprachwissenschaft' (1868); 'Die griechischen Heldensagen im Widerschein by den Mongolen' (1869); 'On the present State of Mongolian Researches' (1882).

JULIA, only child of the emperor Augustus: b. 39 B.C.; d. 14 A.D. She was his daughter by his second wife Scribonia, and was first married (25 B.C.) to her cousin, the young Marcellus, and afterward to Marcus Vipsanius Agrippa, to whom she bore three sons and two daughters. On Agrippa's death, in 12 B.C., she was married to Tiberius, who left her on account of her licentiousness. Augustus banished her to Pandataria, a desolate island on the coast of Campania, ultimately allowing her to live in Rhegium. After the death of the emperor, Tiberius treated her with great severity. She died in poverty and distress. Her son, Agrippa, had been put to death by Tiberius shortly before.

JULIA DOMNA, Roman empress: b. Emesa, Syria, 170 A.D.; d. 217 A.D. She was the second wife of the Emperor Severus, and

mother of Caracalla and Geta, and a distinguished patroness of art and science.

JULIAN, joo'lyan (FLAVIUS CLAUDIUS JULIANUS), Roman emperor, surnamed the Apostate: b. Constantinople, 17 Nov. 331; d. 26 June 363. When hardly six years old his father and several members of his family were murdered by the soldiers of his cousin, the Emperor Constantius. He was brought up in the Christian religion, studied philosophy and letters, and resided in Athens, where he was induced to embrace Paganism. Having received command of an army against the Germans, he defeated them at Strassburg and drove them beyond the Rhine. He also displayed great talent as an administrator in Gaul. The emperor now became jealous of Julian, and recalled his best troops under pretense that he wanted to employ them against the Persians. This order caused a rebellion among the soldiers, who proclaimed their leader, Julian, emperor in March 360, in spite of his own resistance. Constantius prepared to proceed against him, but soon after died, and Julian was generally recognized as emperor. He began by putting a stop to many abuses and limiting the splendor of the court, and was thus able to remit to the people the fifth part of all their taxes. He sought to restore the heathen worship in all its splendor, and on that account opposed Christianity as much as was in his power, without, however, persecuting the Christians themselves. In 363 he headed an expedition against the Persians and took several cities. He was an able ruler, and had also a reputation as an author. Some of his works have come down to us, including speeches, letters and satirical pieces; the latter are distinguished for wit and humor. He wrote also a work against the Christian religion, of which some extracts remain. Consult Gardner, 'Julian: Philosopher and Emperor' (1895); Hoffmann, 'Julianus der Abtrünnige' (1880); Negri, 'Julian the Apostate' (1905); Rendall, 'The Emperor Julian, Paganism and Christianity' (1879).

JULIAN (Cesarini), Cardinal, churchman: b. Rome, 1398; d. in or after battle of Varna, 10 Nov. 1444. Born of noble family and educated at the University of Perugia, he became professor of jurisprudence at Padua. Through the good will of the Pope he was advanced rapidly, finally being made Cardinal Bishop of Frascati. As president of the Council of Basel, he attempted to win over the Hussites, after having first attempted, unsuccessfully to coerce them. He attempted to hold an even way between them and Pope Eugenius; but when he found that this was not possible he became a strong supporter of the Pope. He continued prominent in the negotiations carried on with the Eastern Church until the Pope sent him to stir up a crusade in Hungary against the Turks. Consult Jenkins, 'The Last Crusader' (London 1861); Pastor, Ludwig, 'History of the Popes' (London 1899).

JULIAN, George Washington, American politician: b. Centerville, Ind., 5 May 1817; d. Irvington, Ind., 7 July 1899. He studied law and was admitted to the bar at the age of 21. In 1845 he was elected to the State legislature, as a Whig, but being a strong opponent of slavery he severed his party connection with the Whigs and became one of the founders of the Free Soil party in 1848. In 1849 he was elected to Congress; in 1852 was candidate of the Free Soil party for Vice-President, and in 1856 a delegate to the first national convention of the Republican party, where he was vice-president of the convention and chairman of the committee on organization. In 1860 he was again elected to Congress, and served continuously for ten years. He was a member of the committees on the conduct of the war, on reconstruction, on the preparation of the articles of impeachment against President Johnson, and on public lands, being chairman of the latter. He opposed any monopoly of the public lands, was an advocate of the homestead system, and strongly favored giving the franchise to the negro. In 1868 he proposed a constitutional amendment providing for woman's suffrage. In 1872 he joined the Liberal Republicans, and after that became a Democrat; in 1885–89 was surveyor-general of New Mexico; and after 1889 retired from public life. He published 'Speeches on Political Questions' (1872); 'Political Recollections' (1884); and 'Life of Joshua R. Giddings' (1892).

JULIAN ALPS, the southern extension of the Eastern Alps, from the Venetian Alps, on the northeast of Italy, through Austria to the neighborhood of Trieste. The highest peak, Triglave, is 9,395 feet. The whole range which is very rough and broken is covered largely with handsome forest. Among them are rich valleys.

JULIAN CALENDAR. See CALENDAR; EPOCH.

JULIANNUS SALVIUS, Roman jurist: b. about 92; d. about 155 A.D. He held offices under Hadrian and Antoninus Pius, and codified Roman equity and succeeded in having his codification officially accepted and made binding upon prætors and other government officials. He was an extensive writer; but most of our knowledge of his works is obtained through quotations from them contained in the writings of later writers. Consult Buhl, 'Salvius Julianus' (Heidelberg 1886); Schanz, 'Geschichte der römischen Litteratur' (1905).

JÜLICH, yu'lik (Juliers, in French), town on the Roer 18 miles northeast of Aix-la-Chapelle. It has some interesting old buildings and modern schools and churches. It is a centre of considerable industry, among its chief manufactures being paper, sugar, silk and leather. It was once a strongly fortified city and the capital of a district and an independent duchy. It was successively in the hands of Holland (1610), Spain (1622), France (1794–1814), when it was joined to Prussia. Pop. about 7,000.

JÜLICHER, yu'lik-ĕr, **Gustav Adolf,** German biblical authority and scholar: b. Falkenberg, 1857. Graduated from the University of Berlin (1888), he became a preacher and finally docent of church history in the University of Berlin and later professor of the same subject at Marburg. Among his works are 'Die Gleischnissreden Jesu' (1888); 'Einleitung in das Neue Testament' (1894). This latter, which is of very real value, was translated into English by Janet Ward in 1904.

JULIE OU LA NOUVELLE HÉLOÏSE, one of Jean Jacque Rousseau's most famous

works. It is a novel of the sentimental kind that pleased the reading public of his day and for a generation later, when Goethe and his school carried sentimentality to the highest pitch of art and incidentally of artificiality. The story, which is told in the form of love letters which passed between Julie d'Etanges and Saint-Preux, her lover-tutor, was written between 1557 and 1559. It therefore preceded by 15 years Goethe's famous 'Sorrows of Werther' upon the conception and form of which it undoubtedly had a strong influence. The same sickly sentimentality pervades both; and in both cases it is expressed in the form of letters. Goethe's work was the culmination of the Rousseau literary idea. All over Europe in the original German and in all the languages of the Continent, people "sorrowed" with Werther, and a wave of suicide swept over the land, a hysterical imitation of the tragic exit from this earthly sphere of action of the hero of the 'Sorrows.' This sentimentality of 'Julie,' which had so strongly affected the earlier work of Goethe and the German writers of his day, continued to retain a strong hold upon European writers well on past the middle of the 19th century; and in one form or another it marks the work of the romantic writers of this period. It is especially noticeable in the best of the novels of Hugo. It was one of the literary spots at which the realists, especially those of the French school of the latter half of the 19th century, pointed the finger of scorn.

JULIEN, Alexis Anastay, American geologist: b. New York, N. Y., 13 Feb. 1840. He was graduated at Union College in 1859, studied chemistry there for a year, and in 1860–64, while resident chemist on the Guano Island of Sombrero, carried on a variety of scientific researches. He served on the Michigan Geological Survey in 1872 and on the North Carolina Survey in 1875–78, but from 1865 to 1909 was regularly connected with the School of Mines, Columbia University, as assistant in chemistry, instructor in biology, and (1897–1911) curator of geology. He retired in 1911. His writings include a report on "Lithology" in the Michigan Geological Survey's 'Geology of Michigan' (Vol. II, 1872); a "Microscopic Examination of Eleven Rocks from Ashland County, Wis.," in the Wisconsin Geological Survey's 'Geology of Wisconsin' (Vol. III, 1880); "On the Geological Action of the Humus Acids," in the Poceedings of the American Association for the Advancement of Science (1880); and "Building Stones, Elements of Strength in their Constitution and Structure," Journal of the Franklin Institute (1899).

JULIEN, zhü-lĭ-ăn, **Stanislas Aignan,** French sinologist: b. Orleans, 20 Sept. 1799; d. Paris, 14 Feb. 1873. Possessed of an extraordinary linguistic faculty, he taught himself Greek, English, Italian, Spanish, Portuguese and German, and in 1823 commenced the study of Chinese. At the end of a year he published a Latin translation of the philosopher Mencius. Henceforth ancient and modern Chinese, Manchu, the Mongolian tongues, and Sanskrit, were the subjects of exact and profound study. In 1832 he became professor of Chinese at the Collège de France; librarian at the Bibliothèque Nationale, 1839; president of the college, 1855; commander of the Legion of Honor, 1863. His most important works are 'Voyages des Pérelins Boudhistes' (1853–58); 'Syntaxe nouvelle de Langue chinoise' (1869–70). Julien was the foremost Chinese scholar of his time.

JULIEN, one of Charpentier's more recent operas, first presented at Paris (4 June 1913), and in New York the following February.

JULIET, one of the two leading characters in Shakespeare's tragedy of 'Romeo and Juliet' (q.v.). Juliet also appears in another of Shakespeare's plays, 'Measure for Measure' (q.v.), as the lady beloved of Claudio.

JULIUS I, Pope: d. 12 April 352. He became Pope in February 337, and was a staunch defender of Athanasius, who, under the protection of Julius, sought refuge in Rome against the enmity of the Eastern prelates.

JULIUS II, Pope (GIULIANO DELLA ROVERE): b. Albezuola, 1443; d. Rome, 21 Feb. 1513. He was elevated by his uncle Sixtus IV to the rank of a bishop and cardinal in 1471, and subsequently held eight bishoprics and the archbishopric of Avignon. He was appointed papal legate to France in 1480 and in 1503 was elected Pope. Immediately on his elevation to the pontificate he planned the complete re-establishment of the papal sovereignty in its ancient territory, and the extinction of foreign domination and influence in Italy. Refusing to attend the Council of Pisa convened by the King of France, he in 1511 formed the "Holy League," to which Spain, England and Switzerland were parties. In 1512 he made open war against Louis XII, and the Fifth Lateran Council was convoked by him in the same year. The French defeated the papal army near Ravenna, but were soon after driven out of Italy. He was a far-sighted and patriotic sovereign, and a liberal and judicious patron of art and literature, Michelangelo, Raphael and other great artists of the time receiving commissions from him. To procure means for building Saint Peter's he ordered the preaching of indulgences, which was one of the immediate causes of the Reformation. Consult 'Life,' by Du Mesnil (1873); Brosch, 'Papst Julius II, und die Gründung des Kirchenstaates' (1878).

JULIUS III, Pope (GIOVANNI MARIA DEL MONTE): b. Arezzo, 10 Sept. 1487; d. Rome, 23 March 1555. He was made archbishop of Siponto in 1512 and of Pavia in 1520 and was appointed cardinal by Paul III in 1536. He took an active part in the Council of Trent as papal legate, was elected Pope in 1550, and in the following year reopened the Council of Trent, which had been suspended for two years. He endeavored to effect a union with the Nestorians, and commissioned Cardinal Pole to organize, in conjunction with Mary, the reunion of England with Rome.

JULIUS, DUKE OF BRUNSWICK, a German prince and ruler: b. 1528; d. 1589. He succeeded his father as Duke of Brunswick in 1568. He made himself prominent in Europe by reversing the Catholic policy of his house and becoming himself the backer of the Reformation. He founded the University of Helmstedt as a foil to the great Catholic educational interests with which he was contending.

JULIUS CÆSAR. See CÆSAR, GAIUS JULIUS.

JULIUS CÆSAR. This play was first produced about 1601, though not printed until 1623 with the publication of the first Folio. It is in a sense a continuation of the historical plays, the background of Rome being substituted for that of England. At the same time it is the first in the series of great tragedies. Based upon the lives of Brutus, Julius Cæsar and Mark Antony in North's translation of Plutarch's 'Lives,' it is a striking illustration of the way in which Shakespeare closely followed his original in spirit and sometimes in language, while at the same time he organized this material into a dramatic whole. If one compares Plutarch's text with the play itself, he can best see the dramatist in the very act of dramatic construction.

"The little more and how much it is
The little less and what worlds away!"

In the play we find ourselves in Rome about 44 B.C.: we see the Roman populace running here and there through the streets; we hear the voices of Brutus and Antony in the forum or catch glimpses of Cicero and Cassius on a stormy night; when the scene shifts from Rome, we see the battlefield of Philippi—and along with all these men and guiding the destiny of events, we see and feel the presence of the mighty Julius. The question inevitably arises as to why Shakespeare named the play after Cæsar, who disappears in the middle of the play. Unquestionably the impression gained from what he says as well as from what others say about him would not indicate that the dramatist thought of him as highly as passages in other plays, notably 'Hamlet,' 'Antony and Cleopatra' and 'Richard the Third,' would indicate. He is rather presented as one whose bodily presence is weak and whose mind is declining in strength and in sure-footed energy. Emphasis is placed upon the weakness rather than strength of this character. But that is not all of Cæsar. There may be a sort of irony in the presentation of him; for after his murder the speech of Antony serves to set him before the imagination of the reader as a mighty spirit whose power was to be sought, not only in the days of his earlier conquests, but in the drift toward imperialism which the conspirators tried in vain to resist. Brutus realizes the futility of his efforts when he cries out on the battlefield of Philippi, "O Julius Cæsar, thou art mighty yet!"

Whatever may be said of Shakespeare's conception of Cæsar, there can be no doubt that Brutus is the tragic figure of the play—a forerunner of that group of tragic heroes so soon to be created. A student of philosophy, a lover of books and fond of the quiet domestic scenes which had connected him with one of the noblest of women, and above all, a devoted citizen with an instinctive love of the old republic, he is totally unfitted for the stirring scenes into which he is drawn. His lack of knowledge of human nature makes him an easy prey for a more calculating man, while his failing to understand the drift of history brought upon him and his country tragic consequences. He is caught in the tangled web of things. The rare nobility of his soul combined with his tragic end raises the question of the burden of the mystery, the heavy and the weary weight of all this unintelligible world. Of the other characters of the play Mark Antony, Cassius and Portia are drawn with consummate art. Their words have by frequent quotation become so hackneyed that the reader is apt to miss their greatness. Charles Lamb's remark about the frequent acting and reciting of Shakespeare's plays applies with special force to 'Julius Cæsar'; "The very custom of hearing anything 'spouted' withers many a fine passage." Brutus' speech to the Roman citizens justifying the murder of Cæsar, Antony's funeral oration, the appeal of Cassius to Brutus, the dialogue between Portia and Brutus and Antony's tribute to Brutus are among the glories of human speech.

EDWIN MIMS.

JULIUS ECHTER VON MESPELBRONN, yoo'lĭ-us ĕk'tẽr fŏn mĕs'pĕl-brŏn', German Catholic prelate: b. Mespelbronn Castle, 1545; d. 1619. He received a Jesuit education at Paris and Rome and became the leader of the Counter-Reformation in his own country. Owing to his religious zeal he was made bishop of Würzburg with princely powers. He set to work to eradicate Protestantism from his see by removing all the Protestant clergy and by other coercive means; and it was his boast that he had accomplished his aims and had made more than 60,000 converts to Catholicism in three years. He founded schools, colleges and charitable institutions, among the most notable of which were Julius Hospital (1579) and the University of Würzburg (1582). Thus he became noted as one of the most active and constructive members of the Catholic League.

JULLIEN, zhu'lyăn, **Adolphe,** French musical and dramatic critic: b. Paris, 1845. He graduated in law taking, at the same time, very extensive studies in music which he continued after graduation. He began writing for musical journals, and in addition to musical criticisms and chronicles he contributed short stories to the *Français,* the *Moniteur Universal* and other periodicals. Among his published works are 'La Musique et les philosophes au XVIII ème siècle' (1873); 'Histoire du théâtre de Mde. de Pompadour' (1874); 'La comédie à la cour de Louis XVI' (1875); 'Goethe et la Musique' (1880); 'L'Opera secret au XVIII ème siècle.'

JULY, the seventh month of the calendar, which in the Roman year bore the name of *Quintilis,* as the fifth in the computation of Romulus, even after Numa had prefixed January and February. Mark Antony effected a change in its name in honor of Julius Cæsar, who was born on the 12th of the month, and thenceforth by a decree of the senate it was called Julius. It originally contained 36 days. It is said that Romulus reduced them to 31 and Numa to 30. Julius Cæsar fixed the number at 31, which is still retained. The Dog-days are supposed to commence on the 3d of this month.

JULY, Column of, a bronze column erected on the Place de la Bastille, Paris, 28 July 1840, to the "French citizens who fought for the defense of the public liberties on the memorable days of the 27th, 28th and 29th of July, 1830."

On four bands encircling the column are the names of 615 victims of the revolution.

JULY, Revolution of, the uprising in 1830 which overthrew the Bourbon dynasty and restored the house of Orléans to the throne of France. This was the natural outcome of the reactionary tendency which had been the governing principle of the sovereigns in France since 1814. Revolutionary France was not dead and the democratic spirit was far from being smothered. But the rulers of the country seemed to believe that their own safety and that of the stable government of the country depended upon the establishment of as much arbitrary rule and autocracy as could be achieved. The Church and the extreme royalists were in the saddle; and they proposed to make the best of their opportunities to strengthen their position for all time. Louis XVIII (1814–24), with whom the restoration began, had some little ability and the advantage of having a more or less fixed policy whose one great objective was to restore the power of his family and to consistently offer opposition to the growth of the influence of the bourgeoisie. To secure his ends and bind the nobility to himself he had been forced to make a partial restoration of the property, titles and positions of influence of the "exiles" in the face of strenuous opposition on the part of a strong and influential section of the population. The backing which the Church had given the royal family made the interests of the sovereign, the nobility and the clergy one in common. In order that these common interests and objective might be strengthened by the education of the masses in the right direction, from the view point of the Crown, all public and private instruction was placed in the hands of the Church, which proceeded to carry out an aggressive program which ran counter, at every turn, to the ideas of the strong revolutionary and democratic part of the population, the natural and legitimate heirs to the sentiments and aims of the Revolution of 1789. This ever-growing revolutionary body could only be kept from expressing itself, in a manner dangerous in the extreme to the ruling house, by the enforcement of severe laws against the liberty and freedom of the press. The Jesuits, who had been readmitted to the country following the restoration, became very active, not only as educators, but as propagators of royalist teachings, all of which were radical and extreme. Louis XVIII managed to maintain his position as head of the nation in the midst of many threatening dangers. But his successor, Charles X, who had been educated under clerical influence to the most extreme of royalistic views, was a man of little ability, weak will and poor judgment, warped by his training. He was, therefore, incapable of judging of the magnitude of the dangers by which he was surrounded. At the most critical moment in his career, when only the coolest and most liberal judgment could have saved the situation for him, he made his confident and representative Count Jules Polignac (9 Aug. 1829), the most bigoted royalist and churchman among the French nobility, a man who could only see one side of the question and that only through his colored glasses. He succeeded in antagonizing the opposition as even the unwise and undemocratic acts of the sovereigns had not done. The assemblies which met the following year (March 1830), both upper and lower houses, demanded the dismissal of the new and actively royalist ministers, who largely represented clerical influence and interests. Charles' answer, dictated by the court party, was the immediate prorogation and final dissolution of the Chambers. The natural result was that the new election increased the strength of the Anti-royalist party. This the king realized and he determined to anticipate the trouble he saw coming by the suspension of the liberty of the press and declaring the elections null and void (26 July 1830). To make sure that the next Chambers should not prove dangerous or obstructive, the edict of dissolution of the new Chambers prescribed changes in the franchise which practically restored arbitrary government. The newspapers defied the government to carry out the edict of the suspension of the liberty of the press, and the trouble at once began in Paris. Barricades were thrown up everywhere in the eastern section of the city and the city hall and Notre Dame Cathedral were seized by the revolutionists. After three days' fighting under Lafayette and Laffitte, the revolutionists held possession of all of Paris. Suddenly, the king realizing the strength of the revolution and his own danger, withdrew his various edicts. But it was already too late and he was forced to abdicate in favor of his own grandson, the Duke of Bordeaux. Fearing the temper of the revolutionists, he fled across the border. But the Duke of Bordeaux was not destined to become sovereign of France, if for no other reason, because he was the choice of the late king. On the night of 30 July Louis Philippe, Duke of Orléans, arrived in Paris, at the call of Talleyrand, one-time minister of Napoleon I, and other prominent men of his party who had been intriguing for some time in his favor. He was at once made lieutenant general of the realm. But the choice of Louis Philippe as sovereign was opposed by Lafayette, commander of the National Guard, and his faction, who favored a republic. However, the necessity of not antagonizing the powerful Royalist party, and the diplomatic conduct of Louis Philippe, finally won over the Republicans to a continuation of the monarchy on a restricted and constitutional basis, and the Chambers bestowed the crown upon Louis Philippe (7 Aug. 1830). Although the principal part in the revolution had been played by the workingmen of Paris, still it was represented for the country as a whole by the middle classes who were still royalist in sentiment. A knowledge of the general feeling of the country induced Lafayette and the municipal committee who were, like the Paris workmen, strongly republican, to accept the compromise offered by Laffitte, Thiers and the Orleanists. But in this compromise the laboring class was singularly forgotten, an act which was pregnant with future trouble. According to the agreement with Louis Philippe a new constitution was adopted. This recognized a property qualification which gave the middle classes a very strong voting power and, consequently, influence in the affairs of the nation. But it shut out the laboring classes, who found that they

still had their battle to fight for political freedom. The Belgian and Polish revolutionary movements were more or less directly the result of the success of the July Revolution in France. Consult Fyffe, 'History of Modern Europe' (Vol. II, London 1886); Hazen, 'Europe Since 1815' (New York 1911); Lavisse and Rambaud, 'Histoire générale' (Vol. X, Paris 1898); Seignobos, 'Political History of Europe since 1814' (New York 1899); Robinson and Beard, 'Development of Modern Europe' (Boston 1908).

JUMBO, the name of a large African elephant for 25 years on exhibition at the Royal Zoological Gardens in London. The animal was purchased in 1882 by P. T. Barnum (q.v.), American showman, for $10,000, and for three years was exhibited in the United States. Jumbo was killed in 1885 by a railroad train in Canada. He was 11 feet 6 inches in height and weighed six tons. His skeleton is preserved at the Smithsonian Institution, Washington, D. C.

JUMEL, zhū'mĕl, **Eliza,** American heiress: b. at sea, 1769; d. New York, 16 July 1865. Her maiden name was Capet, and after her mother's death she was adopted by Mrs. Thompson, of Newport. She was a wayward, beautiful girl; at 17 she eloped with a British officer named Peter Croix, with whom she lived in New York. There she was greatly admired, and soon after her first husband's death married Stephen Jumel, who took her to Paris, where her social success was as great as in New York. After Jumel's death she married at 61 Aaron Burr (q.v.), from whom she separated soon afterward. Her home during her last years was the famous Jumel mansion, built by Roger Morris in 1758, the home of Mary Philipse Rogers and Washington's headquarters during the New York campaign. It was bought by Madame Jumel in 1810, and is still preserved, its site being the Roger Morris Park, New York, which was opened 28 Dec. 1903.

JUMET, zooh'mā', a town in Belgium, about three miles northwest of Charteroi. It is the centre of numerous industries, including iron and coal mines, smelters, foundries and glass factories. Pop. about 30,000.

JUMILLA, hoo-mē'lyă, a city in Murcia, Spain, on the river Juá, 35 miles northwest of the city of Murcia. It is the centre of vineyards and fruit orchards, and possesses a few industries, among them being soap, cognac and wine factories. Pop. about 20,000.

JUMNA, or JAMNA (Sanskrit YAMUNA), a river of India which rises in the Himalayas, at the height of 10,849 feet. It flows in its upper course in a generally southwest direction, then bends to the southeast and, passing the cities of Delhi and Agra, falls into the Ganges, of which it is the chief tributary, at Allahabad, after a course of 860 miles. Important irrigation works derive their supply of water from this river.

JUMPERS, a class of religionists who manifest their devotion and feeling by jumping from the ground during the time they are assembled for worship and exhortation. They are said to have originated in the Methodist congregations of Wales during the preaching of Whitfield (1760). They were also called "Barkers" from the incoherent guttural sounds they uttered during their excitement. They still exist in some parts of the eastern States, having emigrated to America after being repudiated by English Methodists.

JUMPING BEANS, the fruits of certain euphorbiaceous plants of the genius *Sebastiana,* infested with the larvæ of certain small moths (*Carpocapsa saltitans* and *Grapholitha sebastianæ*), which by their movements make the capsules roll, and even jump as if alive. The larvæ spin cocoons in the capsules, a large part of the interior of which they have devoured, and when ready to emerge as adults, push open a previously cut circular door which has been held shut by silken threads. Several species are found in Central America and Mexico, where they are called "broncho beans."

JUMPING FISH. See MUD-SKIPPER.

JUMPING FROG OF CALAVERAS, The Celebrated, one of the earliest works of Mark Twain. It was published in the *Californian* and attracted considerable attention to the author, since it was at once taken up by the general public as a piece of good humorous writing. It made its way into recitation books and was widely read on public and private stages by elocutionists and other public readers. It was also widely quoted.

JUMPING HARE, or **SPRINGHAAS,** a jerboa-like animal (*Pedetes caffer*) of South Africa, as large as a hare, and much resembling one, which is now set apart in a family (*Pedetidæ*) by itself. It will leap 25 or more times its own length, and where numerous does great damage at night to growing crops.

JUMPING MOUSE. See JERBOAS.

JUMPING PLANT LOUSE, an insect belonging to the *Psyllidæ* family. It receives its name on account of its prowess as a jumper. The majority of the members of this family pass their lives upon the leaves of various kinds of vegetation. Some, however, live in gulls. The adults sleep through the winter, but become very active with the return of warm weather when breeding begins, resulting in several successive families during the season.

JUMPING SHREW, a curious little animal of Africa, one of the insectivora of the Elephant-shrew family (*Macroscelidæ*), which has very large hindquarters and moves by leaping like a jerboa. They inhabit rocky and desert places, remain in holes and hiding places during the day and go abroad at night in search of insect food. The best known perhaps is the Cape jumping-shrew of South Africa (*Macroscelidus typicus*), which is tawny brown, about five inches in length, has a long, flexible proboscis and a long naked tail.

JUMPING SPIDERS, small spiders of the family *Attidæ,* which dwell in low vegetation, and are exceedingly agile. They are usually short and stout in form, rarely more than a quarter of an inch long, and are often brightly colored, especially in the case of the males, which take curious attitudes in order to display their ornaments to the females. Consult Emerton, 'Common Spiders of the United States' (1902).

JUNAGARH, joo'nă-gŭr', a native Gujarat state, Kathiawar peninsula, Bombay, India. The surface of the country which contains an area of 3,284 square miles, is comparatively level, except to the north where it is broken by hills (Girnar), the highest of which rise about three-quarters of a mile above sea-level. Its capital bears the same name as the state. Since 1808 the interests of Junagarh, which ranks as a first class native state, have been closely identified with those of the British. Among its products are cereals, sugar cane, rice and cotton. Consult 'The Imperial Gazetteer of India' (Oxford 1908).

JUNAGARH, capital of the state of the same name (q.v.), in Bombay, India. It is picturesquely situated on the Rajputana Railway, about 45 miles north of Verawal. The city possesses fortifications built in 1472, and a very ancient fortress said to date back to 250 B.C. Among its modern buildings are the palace of the Nawab, hospital, public library and College of Arts. Pop. 36,000. Consult Burgess, 'The Antiquities of Cutch and Kathiawar' (London 1887); 'The Imperial Gazetteer of India' (Oxford 1908).

JUNCO, a genus of slate-colored and white sparrows, present in the United States mostly in winter. See SNOWBIRDS.

JUNCOS, hoon'kōs, a town and district in the eastern end of Porto Rico. Both are engaged in the production of tropical fruits, tobacco and sugar cane and the manufacture of the products of the latter. Population of the district about 14,000; of the town about 6,000.

JUNCTION CITY, Kan., city and county-seat of Geary County, at the junction of the Republican and Smoky Hill rivers, 135 miles west of Kansas City; and on the Missouri, Kansas and Texas and the Union Pacific railroads. The two rivers here form the Kansas River, and make an important shipping point for grain, flour, live stock and limestone. It contains boot and shoe factories, glove, cigar, sheet metal, cement-block and harness factories, and flour mills and lumber yards. A government military post, Fort Riley, is located three miles east of the city. It was settled in 1858 and adopted the commission form of government in 1911. The city owns the waterworks. Pop. 5,598.

JUNE, Jennie. See CROLY, JANE C.

JUNE, the sixth month in the calendar. The etymology is uncertain. Vossius gives three etymologies of the name — one from Juno; another from *jungo* (to join), referring to the union between the Romans and Sabines under Romulus and Titus Tatius; a third from *juniores* (the young men), Romulus having been said to have assigned the month of May to the elders, and that of June to the young men, when he divided the people into these two great classes, the former to serve in counsel, the latter in war. The name has also been traced to Junius Brutus, the first consul. It consisted originally of 26 days, to which it is said Romulus added four, and Numa took away one. Julius Cæsar again lengthened it to 30 days, and it has ever since remained unaltered.

JUNE BEETLE, or **FIG-EATER,** a green and brown beetle (*Allorhina nitida*) of the family *Scarabæidæ* common in the central and southern United States. The adults often eat figs, peaches, small fruits, corn, etc. The larvæ are white grubs which resemble their northern relatives (see MAY BEETLE), but are far less injurious since they normally feed upon decaying vegetable matter in the soil and not on living roots of plants. The adults may be decoyed away from ripe fruit by placing little piles of decaying fruit within their reach: but since they are probably beneficial they should not be destroyed.

JUNE BERRY. See AMELANCHIER.

JUNE BUG. See MAY BEETLE.

JUNE GRASS. See BLUE GRASS; GRASSES IN THE UNITED STATES.

JUNEAU, joo-nō', **Laurent Solomon,** American pioneer: b. L'Assumption parish, near Montreal, Canada, 9 Aug. 1793; d. Shawano, Wis., 14 Nov. 1856. He emigrated to Green Bay, Wis., and thence in 1818 to Milwaukee, where he was active in trade with the Indians. He was not, as has been sometimes stated, the first white settler on the site of Milwaukee. A grant of considerable land had there been made by the Indians to one Mirandeau, a previous resident, and of this grant, Juneau, on Mirandeau's death, secured possession. Juneau made the first survey of Milwaukee village, was its first postmaster and president, and the first mayor of the subsequent city. On ground presented by him, he helped to build the first court-house in the State. For years he was agent for the American Fur Company. A heroic statue of him was placed in Juneau Park, Milwaukee, in 1884.

JUNEAU, Alaska, city in the southern district, on a promotory between the Taku River and Lynn Canal, opposite Douglas Island, about 100 miles north of Sitka. It was settled in 1880, is incorporated, and has been selected by Congress as the capital of Alaska. From its situation in the mining region it has become a centre of trade in outfitters' articles and general supplies; while its exports, including gold, furs and other products of Alaska, have grown to a considerable commerce. Among the manufactories are iron-works, breweries, sawmills, cigar factories, etc. In the vicinity are the Treadwell gold mine and the Silver Bow mine. Villages of the Auk and Taku Indians in the neighborhood are of interest to tourists. At Juneau are located the Territorial Legislature and courts and Federal officials. Its public schools are well conducted, there are several churches, hospitals, newspapers, a fire department, police, drainage, and waterworks and electric-light systems. These and other public improvements give it all the essential conveniences of a modern American city. Cable service is established here. Steamship lines connect it with Seattle, Sitka, Skagway, and all parts of the Copper River, Prince William Sound, Cook Inlet, and Unalaska. Over $60,000,000 of gold have been mined in the Juneau region and there is room for even greater development. Consult Greely, A. W., 'Handbook of Alaska' (New York 1914). The population is estimated at about 4,000

JUNG, zhŭn', **Henri Félix Théodore,** French writer and military man: b. Paris, 1833; d. 1896. Educated for the army he entered upon a military career on graduation, from

Saint Cyr in 1853. After spending five years in the artillery in Africa and taking part in the campaign in Italy, he became a member of the war council (1869). He fought through the Franco-Prussian War; became brigadier-general in 1887 and Governor of Dunkirk, a position he resigned in 1891. He frequently wrote under the nom de plume of "Mustapha." Among his published works are 'Le depôt de la guerre' (1872); 'La république et l'armée' (1872); 'La vérité sur le masque de fer' (1873); 'France et Rome' (1874); 'Bonaparte et son temps' (1881); 'Lucien Bonaparte et ses mémories' (1883); biography of Dubois-Crancé (1884).

JUNG, yŭng, **JUNGE,** or **JUNGIUS, Joachim,** German naturalist: b. Lübeck, 1587; d. 1657. He was professor of mathematics at Giessen (1609–14). He received his doctor's degree in medicine from Padua in 1618. He was professor of mathematics at Rostock in 1625 and rector of the Hamburg Johanneum (1628–40). He was one of the first consistent students of the natural sciences more particularly physics, entomology and botany. He attempted to make a classification of plants by genera and species and to provide nomenclature. Consult Goethe, 'Fragmente über Jungius' (Stuttgart 1850); Martini Fogelii, 'Memoria J. Jungii' (Hamburg 1657); Avé-Lallemant, 'Des Dr. Jungius Briefwechsel' (Lübeck 1863); 'Das Leben des Dr. Jungius' (Breslau 1882).

JUNG, jŭng, Sir **Salar,** East Indian prince: b. 1829; d. 1883. He came of a notable family and he became Premier of the Deccan in 1853. He was faithful to the government during the Indian mutiny (1857–58); thus his relations with the British continued to be very cordial. He proved an excellent ruler and succeeded in organizing the country and government committed to his care. Much attention was paid to him by the British public on his visit to England in 1876, when he was knighted with the order of Knight Grand Commander of the Star of India.

JUNG BAHADUR, bă-hă'dŭr, Sir **Maharajah,** East Indian ruler: b. 1816; d. 1877. After holding various important offices, he became Prime Minister of Nepal. Several attempts were made to assassinate him; but he succeeded in getting the better of his enemies, of becoming practicaly an absolute ruler and of establishing order throughout his domains. He supported the British during the Indian mutiny (1857–58).

JUNG-DEUTSCHLAND, more properly **DAS JUNGE DEUTSCHLAND,** a literary and political movement in Germany culminating in 1835, and not related with the simultaneous and more important movements known as Young Italy and Young Europe. There never was much organization or consultation between the writers composing it (Heine, Laube, Gutzkow, Mundt, Wienbarg), but they were connected by the similarity of their aims and methods, and by the fact that the Bundestag at Frankfort in 1835 (having read a denunciation of these men, written by Wolfgang Menzel), issued a decree forbidding the circulation of all past and future writings of the five men concerned, and characterized their movement as "Jung-Deutschland," a term first used by Wienbarg in his 'Æsthetische Feldzüge.' Basing their principles on stimulus received from recent emancipated French writers, these Young Germans opposed, in a literary way, the political reaction in Germany, the predominant tendencies in literature, and the sectarian Christianity of their day. Both Jesuitism and Protestant orthodoxy were then very strong in Germany, and to these influences the Young Germans opposed the socialistic tendencies emanating from the French July Revolution (1830). Their chief object was to reinvigorate both State and Church by the injection of an esthetic culture, thus making both institutions more accessible to larger outlooks. Soon, however, the free unfolding of the individual character became their principal goal. State and Church came to be regarded as mere hindrances, and national affiliation was considered to be a base ideal, in no way comparable with Goethe's great conception of a world literature (*Weltlitteratur*). The immediate demands of the Young Germans included an emancipation of the Jews and complete freedom for women. Consult Houben, H. H., 'Jungdeutscher Sturm und Drang' (Leipzig 1911); Bloesch, H., 'Das junge Deutschland in seiner Beziehung zu Frankreich' (Bern 1903); Proelss, Johann, 'Das junge Deutschland' (Stuttgart 1892); Brandes, Georg, 'Das junge Deutschland' (Leipzig 1891).

Jacob Wittmer Hartmann.

JUNGBUNZLAU, yung-bunts'lau, Bohemian town on the Iser 30 miles northeast of Prague. It consists of two parts, the old and the new towns. Among the activities of the city are factories for the making of earthenware, glass, woolens, textiles, carriages, carwheels, liquors, candles, soap and starch.

JUNGFRAU, yoong'frow (Ger. "virgin," or "maiden"), a mountain of Switzerland, in the Bernese or Helvetic Alps, on the frontiers between the cantons of Bern and Valais, 12 miles southeast of Interlaken. It is one of the most magnificent mountains in Switzerland; height 13,670 feet. It was first ascended in 1811.

JUNGFRAU VON ORLEANS, Die (The Maid of Orleans), one of Schiller's most noted tragedies which was finished in 1801.

JUNGHANS, yoong'häns, **Sophie,** German novelist: b. Cassel, 3 Dec. 1845: d. 1907. She became well known by the publication of 'Kathe, the Story of a Modern Maid' (1876). Later works of hers are 'The House of Eckberg,' a study of life during the Thirty Years' War (1878); 'Die Erbin wider Willen' (1881); 'Die Gäste der Madame Santines' (1884); 'Der Bergrat' (1888); 'Zwei Brüder' (1889); 'Zu rechter Zeit' (1892); 'Um das Glück' (1896); 'Junge Leiden' (1900); 'Hymen' (1902); and posthumously, 'Wisel' (1908); 'Gerübde' (1908); 'Der geraubte Schleier' (1910).

JUNGLE BOOKS, The, that is to say, the two volumes entitled, 'The Jungle Book' and 'The Second Jungle Book,' in which Rudyard Kipling has collected most of his stories wherein animals are leading actors, were originally published 2 June and 16 Nov. 1894. The first volume, 'The Jungle Book,' narrates in nine magical tales the history of Mowgli, reared from babyhood in the jungle by fostering wolves — how he is adopted as one of the wolf-

pack, how he is instructed and befriended by Baloo the wise bear, Kaa the python and Bagheera the black panther, how he is rescued from the Bandar-Log or Monkey People, how he slays Shere Khan, the tiger, how he becomes the acknowledged master of the jungle, and finally how he returns to his own kind, yet still remains in touch with the jungle-dwellers. The collection is diversified by interludes in verse, such as "The Law of the Jungle" and the "Road-Song of the Bandar-Log" which accentuates the satire embodied in the description of the boastful, scatterbrained Monkey Folk. 'The Second Jungle Book' contains seven stories, among them that of "Rikki-Tikki-Tavi" the mongoose, "Toomai of the Elephants," "The Undertakers"—which is concerned with three sinister scavengers, the crocodile, the jackal and the adjutant crane,—and "The Miracle of Purun Bhagat," a beautiful tale of an old recluse and the beasts that loved him. "To those who read between the lines," says Frederic Taber Cooper, "the Jungle Books are far more than a new childhood classic. They are the life of modern India, told in allegory, and in Kaa and Bagheera and all the rest we have the types of native life, with its stored-up wisdom of old, primeval instincts, its simplicity of outlook upon the present-day world." Kipling's animals are peculiarly convincing. They act and talk—when they do talk,—in accordance with their animal characteristics, and never give the impression that they are humans masking in fur, feathers or scales.

ARTHUR GUITERMAN.

JUNGLE-CAT, or **CHAUS,** the common wildcat of India (*Felis chaus*). It is 26 inches long in head and body, has a short tail, reaching only to the heel, and is yellowish gray, more or less dark and unspotted, tinged with reddish on the sides, marked by a dark stripe from the eyes to the muzzle, and with reddish black ears slightly tufted. Another Indian "jungle-cat" is the handsome *F. ornata,* which is profusely spotted; it dwells in the desert regions of the Northwestern provinces. Both these cats are said to interbreed with domestic cats, and thus no doubt long ago influenced the varieties of the tamed stock.

JUNGLE-FEVER, a severe variety of remittent fever, prevalent in the East Indies and other tropical regions. It is characterized by the recurrence of paroxysms and of cold and hot stages. The remissions occur usually in the morning and last from 8 to 12 hours, the fever being mostly typically developed at night.

JUNGLE-FOWL, the English book-name of a genus of pheasants, the source of domestic fowls, characterized by a fleshy frontal comb and wattles and the peculiarly laterally compressed tail with its long, drooping, curved feathers. This genus (*Gallus*) is represented by several species in southern Asia, especially India and the Malay and Philippine Islands. The common jungle-fowl (*Gallus gallus* or *bankiva*) is especially noteworthy as the original stock of our barnyard fowls. The wild birds, which are quite common in cultivated parts of central India and about the bases of the Himalayas up to an elevation of 5,000 feet, closely resemble some of the varieties of game cocks and hens. The sexes differ as in the domestic birds in size, character of tail feathers, combs, wattles, spurs and color. Although naturally living in flocks in the jungles and forests, these haunts are often forsaken for the purpose of feeding upon grain in the cultivated fields. They run with great speed, are tolerably good flyers and roost in trees. The cock crows and the hen clucks and cackles much as domestic fowls do. In the wild state the jungle-fowl is said to be monogamous; eggs to the number of 10 or 12 are laid in a simple depression in the ground lined with leaves and grass. Consult Darwin, 'Animals and Plants under Domestication'; Tegetmeier, 'Ibis' (1891); and Blanford, 'Fauna of British India.'

In Australia this name is often given to the mound-birds.

JUNGMANN, yoong'măn, **Jozef Jakob,** Czech philologist and literary man: b. Hudlitz, Bohemia, 1773; d. 1847. Graduated from Prague in law and philosophy, he became a teacher in the gymnasium at Leitmeritz (1799–1815); and in the same capacity at Prague (1815–35). He was rector for the following 10 years. He attempted to awaken the Czech spirit of nationality and to interest the people as a whole in their national language, to prove the literary capacity of which he made translations from English, French and German, among his translations being Milton's 'Paradise Lost,' Chateaubriand's 'Atala,' and Goethe's 'Hermann and Dorothea.' His original work consisted of 'A History of Czech Literature and Language' and a dictionary of the Czech language. His influence for good was very powerful on his own language and his help to philology very considerable.

JUNIATA, joo-nī-ăt'ă, borough in Blair County, Pa., close to Altoona on the Pennsylvania Railway. Among its industrial establishments are railway repair shops and silk mills. Pop. 6,000.

JUNIATA, joo-nī-ăt'ą, a river of Pennsylvania formed at Petersburg, about six miles northeast of Huntingdon, near the centre of the State, by two streams rising in the Alleghany Mountains — the Little Juniata and the Franks-town Branch. Its course is winding, but it flows in a generally eastern direction for about 150 miles, entering the Susquehanna at Duncannon, 14 miles above Harrisburg. Along the greater part of its course the scenery is picturesque, often marked by grandeur where the river breaks through the mountains that rise in parallel ridges across its path. The Juniata is not a navigable stream, but from its source to its mouth its banks are followed by the Pennsylvania Canal and the Pennsylvania Railroad, the latter crossing the river several times.

JUNIATA COLLEGE, a coeducational institution, located at Huntingdon, Pa.; established in 1876 under the auspices of the German Baptist Brethren. Special attention is given to the religious education of the students; one of its principal courses is the history and literature of the Bible. It has art, music, normal and commercial departments, also a preparatory school. The courses lead to the degrees of bachelor of arts and of English and sacred literature. In 1917 there were in attendance 341 students and 23 professors and instructors were connected with the school. There were about 28,000

bound volumes and over 4,000 pamphlets in the library. The endowment was about $185,000 and the college property was valued at $250,000.

JUNILIUS, an African bishop of the 6th century. He was the author of 'Instituta Regularia Divinæ Legis,' written about 550. This work is of importance on account of being one of the earliest known introductions to the sacred writings, and also to the fact that Junilius does not include among the canonical books Chronicles, Ezra, Nehemiah, Job, Judith, Esther and the Maccabees. Consult Becker, 'Das System des Kirchenvaters Junilius' (Lübeck 1787); Klim, 'Theodor von Mopsuestia und Junilius Africanus' (Freiburg 1880).

JUNIN, hoo-nēn, Peru, department in the interior, bounded on the north by Huanuco, east by Cuzco, south by Ayacucho and Huancavelica and west by Lima. It has an area of 23,347 square miles. It is located in the wildest parts of the Cordilleras. The western portion is more elevated than the eastern, but the latter is densely wooded. Agriculture is neglected and large deposits of silver, copper, coal and salt remain unworked. Cereals, coffee and sugar are the principal crops. A railroad connects the southern part with Lima on the coast. The capital city is Cerro de Pasco. Pop. of the department 394,393.

JUNIN, or **CHINCHAYCOCHA,** chēn-chī-kō'chă, a Peruvian lake situated at an altitude of 13,000 feet in the department of the same name. It is 37 miles long and about seven miles wide and the waters from it find exit through the Mataro River.

JUNIOR ORDER OF UNITED AMERICAN MECHANICS. See UNITED AMERICAN MECHANICS, JUNIOR ORDER OF.

JUNIPER, a genus (*Juniperus*) of ornamental evergreen trees and shrubs of the family *Juniperaceæ,* consisting of about 40 species, distributed mainly throughout the cooler parts of the northern hemisphere. The species have branches which spread in all directions from the main trunk and limbs, small, rigid, needle-like or scale-like, opposite leaves; unisexual flowers, the two sexes usually upon separate plants, the staminate yellow and in catkins, the greenish pistillate ones followed by fleshy or dry, berry-like cones containing from one to six, sometimes 12 seeds, which may not attain maturity until the second or third year. The best-known species in the United States is probably the Virginia juniper, red cedar or savin (*Juniperus virginiana*), to be found widely dispersed east of the Rocky Mountains, upon rocky and sandy soils, mountain sides, etc. It sometimes attains 100 feet in height, its upright or spreading branches forming a handsome conical head. Its numerous attractive horticultural varieties are largely planted in parks and cemeteries. The trunks are highly prized for fence posts, being exceedingly durable; the handsome red heartwood is valued for turning, cabinet-work, cooperage and especially for lead pencils; but the tree is looked upon with disfavor by the orchardist, because it is one of the hosts of apple rust. See APPLE, paragraph *Diseases.*

The common juniper (*J. communis*) is a smaller species, rarely reaching 50 feet in height and usually less than 25 feet tall, and many of its numerous varieties less than 10 feet. It is widely distributed throughout the northern hemisphere, especially in the colder latitudes and altitudes. Like the preceding species its wood is valued, when of sufficient size, for posts, veneers, pencils and for turning. The tree itself is also used for ornamental planting. Its bark is sometimes twisted into ropes and its long, tough, fibrous roots are used for making baskets. Its blue-black fruit, which it yields profusely, is used for flavoring certain liquors, as is also the oil obtained from them and from the twigs by distillation with water. This oil has been used in medicine as a stimulant, but is less popular than formerly. The Bermuda cedar (*J. barbadensis*) resembles the Virginia juniper, but is of stouter build, though it rarely exceeds 40 feet in height. Its wood is rather more fragrant than that of the preceding species like which it is used. Formerly it was employed in the ships built in the Bermudas, but the forests which supplied this industry were mismanaged and the industry perished. Several other species are of more or less economic importance; for instance, the Spanish juniper (*J. oxycedrus*), a shrub which attains a height of about 12 feet, whose fruits yield a disagreeable smelling oil (oil of cade), used in veterinary medicine; and African juniper (*J. procera*), a useful timber species and probably the largest of the genus, often attaining heights of 150 feet in the mountains of eastern Africa, where it is native. A number of species occurring in western North America are of great economic importance.

Junipers succeed best in moderately moist, sandy loam in open, sunny situations. They make excellent windbreaks and shelter belts, especially where the soil is too dry, rocky, or gravelly for other trees. They may be propagated by seeds which, however, usually require two, sometimes three, years to germinate. Cuttings of almost mature wood may be taken in the autumn from the needle-leaved kinds and grown under glass or in the open; species with scale-like leaves are generally side-grafted in the greenhouse during winter. Some of the shrubby species are propagated by layers.

JUNIPERO, Miguel José Serra, mē-gĕl hō-sā' sĕr'rä hoo-nē'pä-rō, Spanish missionary in America: b. island of Majorca, 24 Nov. 1713; d. Monterey, Cal., 28 Aug. 1784. He became a member of the Franciscan order in 1729, in 1750 arrived in Mexico City as a missionary and in 1750–69 was active among the native tribes. In 1769 he went to the site of San Diego, Cal., where he founded a mission. He gathered about him a band of 16 of his order and these missionaries converted over 3,000 Indians, of whom Junipero himself is said to have baptized more than 1,000. He instructed the natives in the arts of civilization and the colonies which assembled about the mission stations constituted the first settlements in California. His headquarters were at Monterey, but he founded several other missions. Bret Harte incorrectly gives his name as Serro.

JUNIUS, yoo'nē-ŭs, **Franciscus,** known as THE YOUNGER, German philologist: b. Heidelberg, 1589; d. 1677. The boy was brought to Leyden when three years old and there he was educated under his brother-in-law, Gerhard Vossius, a noted philologist. In 1821 he went to England, where he became librarian to the

Earl of Arundle, a position he held for 30 years. During these and following years he devoted his time to study, research and writing. Among his works are 'De Pictura Veterum' (with an English version, 1637); 'The Gothic Gospels of Ulfilas' (1665); and 'Glossarium Goticum' (1664–65). This latter is in five languages. These and other valuable manuscripts of his are in the Bodleian Library, Oxford.

JUNIUS, Letters of, a remarkable series of political letters that were published in the London *Public Advertiser* over the pseudonym of "Junius," between 21 Jan. 1769 and 21 Jan. 1772. These epistles greatly stirred the English political world, for they were written with a wide and intimate knowledge of affairs, shrewd political sagacity, literary felicity and a certain waspish malignity. No bolder or more audacious comments on the actions and characters of public men have ever appeared in the English language. So merciless were they in their cold-blooded vivisection and more or less polished abuse of the policies of Granby, Bute, Grafton, Bedford, Mansfield and, to Burke's horror, scathing even the sacred majesty of the king, that extraordinary efforts were made to discover their author. But Junius, whoever he was, escaped detection in his lifetime and, since the days of George III, the question of his identity, though frequently raised in England and America, has never been satisfactorily settled. At the close of his correspondence Junius edited the letters for the publisher of the *Public Advertiser,* Henry Sampson Woodfall, with an explanatory preface and a "Dedication to the English Nation." He also included a few letters he had written under other pseudonyms than "Junius." The whole was published in two volumes by Woodfall in 1772. A later edition, published by Woodfall's son and edited by Dr. Mason Good, appeared in 1812. Good introduced 113 extra letters; some of these had passed between Woodfall senior and Junius, but the majority had been collected by Good from the *Public Advertiser* and attributed to Junius without the slightest proof of their authenticity. It was these interpolated letters that gave rise to the accusation of inconsistency frequently leveled against Junius. Some 40 different individuals have at various times been brought forward as the real Junius, among them being Edmund Burke, Edward Gibbon, Lord George Sackville, Lord Chatham, Sir Philip Francis, Colonel Barré, John Horne Tooke, Lord Temple, General Charles Lee, Hugh M. Boyd, Lord Chesterfield, Horace Walpole, etc. Junius wrote his letters in a disguised hand; he described himself as "a man of rank and fortune," asserted that he was the sole depository of his own secret, and that it should perish with him. From external evidence and fortuitous coincidences, plausible cases have been made out to establish the identity of at least 10 different contemporaries with the unknown Junius. From internal evidence, however, including style, ability, circumstances, ages, chronology and motives, in addition to solemn denials by several reputed authors of the letters, the claims and pretensions of any of the remainder have hitherto failed to obtain a unanimous verdict. Curiously enough, all the advocates base their evidence on similarity of handwriting. Apparently the strongest claim was that made on behalf of Sir Philip Francis (1740–1818) by Taylor in 1816 and elaborated by a grandson, H. R. Francis, in 'Junius Revealed' (London 1894). The publication of 'The Francis Letters' (2 vols., London 1901), a mass of private and public correspondence, went some way, negatively, to prove that Sir Philip was not Junius. The best criticisms on the disputed authorship may be found in C. W. Dilke's 'Papers of a Critic' (Vol. II, London 1875) and the *North American Review* of October 1829 and April 1832. Consult Britton, J., 'The Authorship of the Letters of Junius Elucidated' (London 1848); Chabot, C., 'Handwriting of Junius' (London 1871); Coventry, 'Critical Inquiry into the Letters of Junius' (1825); Dwarris, Sir F., 'Some New Facts as to the Authorship of the Letters of Junius' (London 1850); 'Junius Unmasked' (Boston 1828); Jacques, 'History of Junius' (1843); Newhall, I., 'Letters of Junius' (Boston 1818); Parke and Merivale, 'Life of Francis' (London); Vicarius, 'The Junius Letters' (London 1903); Wade, J., 'Junius' (2 vols., London 1850), generally called *Woodfall's Edition,* and occasionally reprinted; based entirely upon Good (1812) it contains all his blunders. Waterhouse, B., 'An Essay on Junius and his Letters' (Boston 1831).

JUNKER, yŭn'kĕr, **Wilhelm,** Russian explorer: b. Moscow, 1840; d. 1892. Educated at Saint Petersburg, Göttingen, Berlin and Prague, he visited Iceland (1869), Western Africa (1873), Tunis (1874), lower Egypt (1875), and went up the Blue Nile to Khartum (1876). After three years spent in this region, he returned to Europe, but went back the following year (1879) to continue his explorations at the head waters of the Nile. In 1886, after numerous adventures, he reached Zanzibar. On his return to Germany he published 'Reisen in Afrika' (Vienna 1889–91), in which he gives an account in three volumes of his travels and adventures.

JUNKERS, yoong'kĕrz, a name given to the younger members of the nobility of Prussia and the adjoining states. "Junkerthum" (aristocratic manners) was a term of reproach used in the 19th century to designate the party of reaction in Prussia, which found its most strenuous supporters among the nobility. "Junkerei" signifies the behavior of young aristocrats; aristocratic arrogance; in German slang a baker's apprentice is sometimes called a junker.

JUNKIN, George, American Presbyterian clergyman: b. near Carlisle, Pa., 1790; d. 1868. He was graduated from Jefferson College (Pa.), in 1813 and entered the Presbyterian ministry in which he became prominent as a leader of the party known as Old School Presbyterians. He founded Lafayette College at Easton, Pa., in 1832, and was its president till 1841; returning thither in 1845, after three years spent as president of Miami College at Oxford, Ohio. In 1848 he became president of Washington College (now Washington and Lee). He was an outspoken upholder of slavery, but was opposed to secession, and on account of his Union sentiments resigned the presidency of the college in 1861. He spent over $10,000 of his own and his wife's fortune to meet the current expenses of Lafayette College. He was the

father-in-law of Gen. "Stonewall" Jackson. He published 'Political Fallacies' (New York 1863) and several religious works. Consult 'Life' by D. X. Junkin (Philadelphia 1871).

JUNKS, large flat-bottomed vessels, ranging from 100 up to 1,000 tons burden, used by the Chinese. They have three masts, and a short bowsprit placed on the starboard bow. The masts are supported by two or three shrouds, which, at times, are all carried on the windward side. On the fore and main mast is a sort of lug-sail, of cane or bamboo matting.

JUNO, the most exalted divinity of the Latin races in Italy next to Jupiter, of whom she was the sister and wife; the equivalent of the Greek Hera. She was the queen of heaven, and under the name of Regina (queen) was worshiped in Italy at an early period. She bore the same relation to women that Jupiter did to men. She was regarded as the special protectress of whatever was connected with marriage. She was also the guardian of the national finances, and a temple, which contained the mint, was erected to her under the name of Juno Moneta on the Capitoline.

JUNOT, Andoche, ăn-dōsh zhu-nō, DUKE OF ABERANTES, French marshal: b. Bussy-le-Grand, Côte d'Or, 23 Oct. 1771; d. Montbard, 22 July 1813. He was intended for the bar, but on the outbreak of the revolution joined a volunteer battalion, and soon attracted notice. At the siege of Toulon, in 1793, he became secretary to Napoleon, and went with him into Italy and Egypt in the capacity of aide-de-camp. In Egypt he was advanced to the rank of general of brigade. In 1800 he was made commandant of Paris, and he particularly distinguished himself at the battle of Austerlitz in 1805. In 1807 he was sent with an army into Portugal, and made his entry without opposition into Lisbon, his success being rewarded with the title of Duke of Abrantes. On the arrival of the British he was defeated at Vimeira, and was then obliged to submit to the humiliating convention of Cintra. Although he subsequently took part in the campaigns (1809) against Austria, (1810) against Spain and (1812) against Russia, he failed to retrieve his reputation. In 1813 he became insane, and lost his life by leaping from a window.

JUNOT, Laure, DUCHESS OF ABRANTES, a French writer: b. 1784; d. Paris, 1838. Her real name was Laurette de Saint-Martin-Permon. She was married to General Junot in 1799; and she eventually became a social leader at the court of Napoleon I. Her extravagance ruined her husband who died in 1813. About this time she turned to literature of a historical and reminiscent nature; and succeeded in keeping herself, for some considerable time, in the public eye. Her 'Memoires' (1831–35) consist of 18 volumes of diffuse material, much of it of interest as reflecting the manners and customs of the times. She also published other works of a like nature from which she earned considerable income; but her boundless extravagance finally left her penniless and she died in a charitable institution.

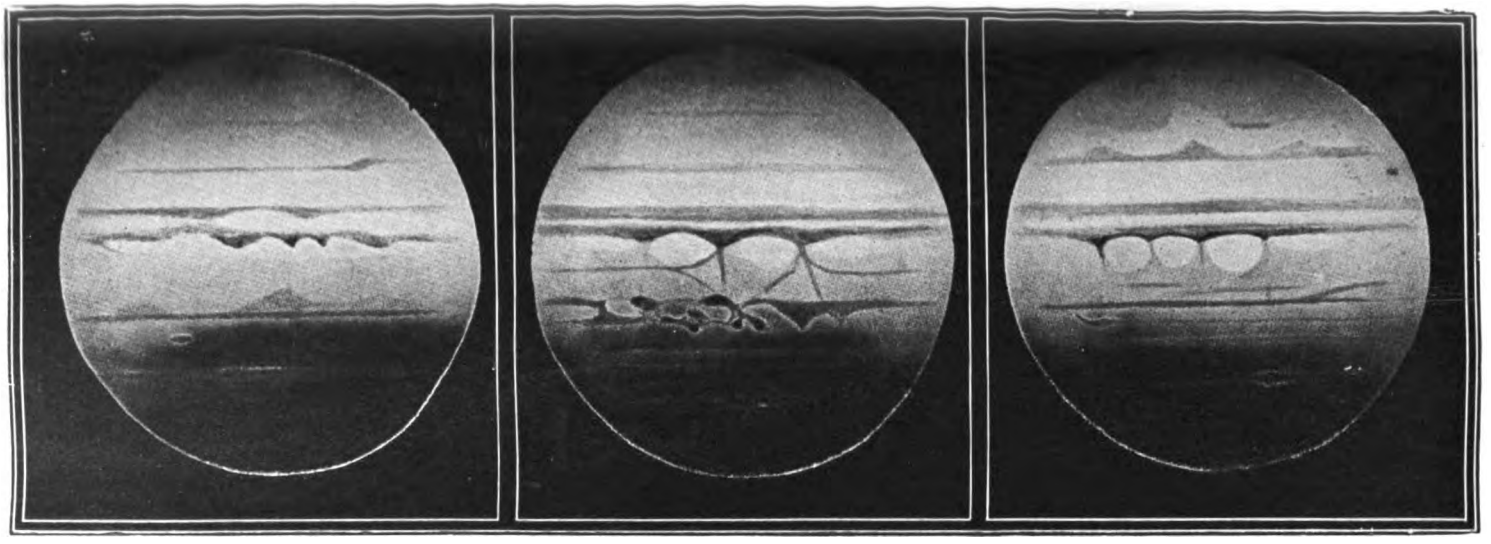
JUNTA, hoon'ta, Spanish assembly; a high council of state; a term common in all Spanish-speaking countries. It is generally also applied to any gathering or body of men. It was originally applied to an irregularly summoned assembly of the states, as distinguished from the cortes or parliament regularly called together by the authority of the king. In Cuba the term was adopted by the insurgents before the Spanish-American war, to designate the general legation of the Cuban republic abroad. This legation or junta was first appointed 19 Sept. 1895, by the Constituent Assembly that formed the insurgent Cuban government, which at the same time made T. Estrada Palma head of the junta and chief Cuban representative abroad, with authority to appoint ministers to all governments and to have control of Cuba's diplomatic relations and representatives throughout the world. See CUBA.

JUNTO, The, a club formed in Philadelphia by Benjamin Franklin for mutual improvement. Morals, politics and natural philosophy, as well as the social well-being of man, were the main subjects discussed. It continued for about 30 years. The name was also applied to an English Whig ministry in the reign of William III, the chief members of which were Admiral Russell, Somers, Lord Wharton and Montague, the great financier. This was the first ministry ever made of one and the same party politics. It was the suggestion of Robert, earl of Sunderland, to William III, who shrewdly said, if all the ministers were of one party they would pull together.

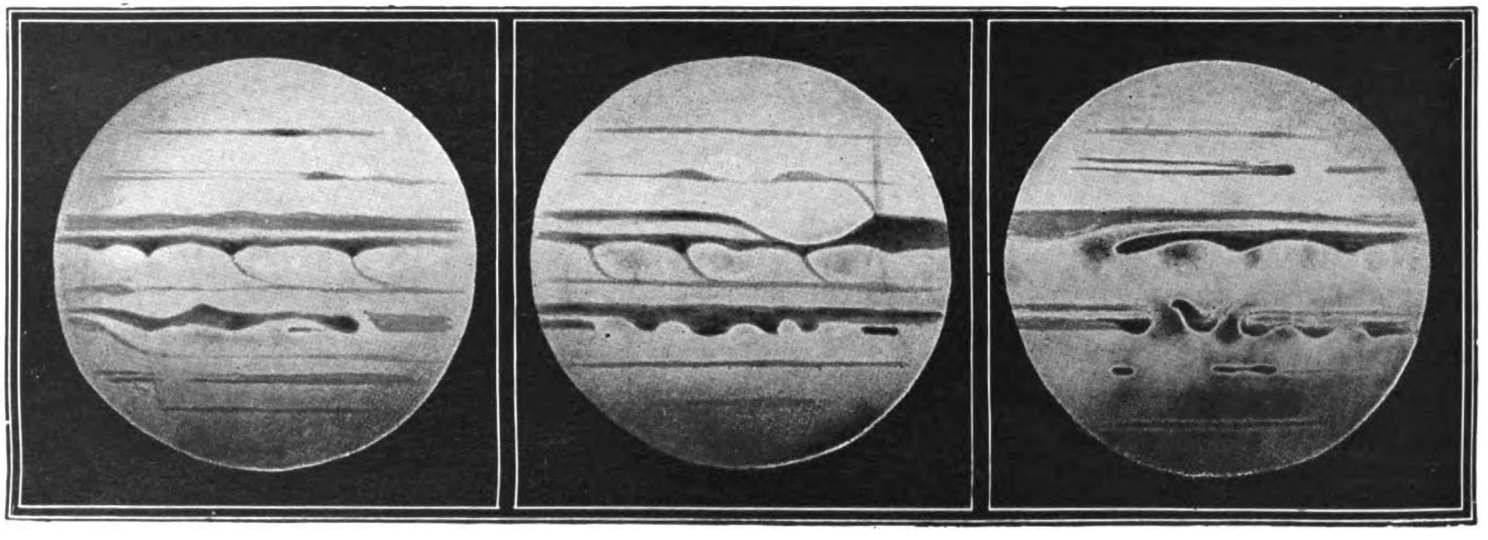
JUON, yoo'ŏn, **Paul,** Russian musician: b. Moscow, 1872. Educated in music in Moscow and Berlin, where he won the Mendelssohn scholarship, he became a teacher in the Baker Conservatory. In 1906 he became professor of Musical composition in the Hochschule at Berlin. As a composer he has paid considerable attention to the folk-lore of Russia. He has inventive power and originality, and his music covers a wide range; but throughout it is Slavic in character. His chamber music is undoubtedly his best; for in this he is unsurpassed by any of his contemporaries.

JUPATI, joo'pä-tē, a palm (*Raphia tædigera*) of the tide-flooded lands of the lower Amazon and Pará rivers, remarkable for its leaves, probably the largest in the vegetable kingdom. The trunk is only six or eight feet high, and one foot in diameter. The leaves rise nearly vertically from the trunk, bending out on every side in graceful curves, forming a magnificent plume 70 feet in height and 40 in diameter. Leaves have been measured 50 feet long, and the leaf-stalk is often 12 or 15 feet long below the first segments of the leaf, and four or five inches in diameter, perfectly straight and cylindrical, and when dried light and strong as the quill of a bird. The Indians split it into laths for a variety of purposes — window-shutters, boxes, bird-cages, partitions, and even entire houses being constructed of it with the addition of a few supporting posts at the angles. The fruit, a large oblong drupe, has a bitter oily flesh.

JUPITER, joo'pĭ-tẽr, or **JUPPITER,** the supreme deity of ancient Rome, the same as the Greek Zeus. As the supreme deity Jupiter received from the Romans the title of *optimus maximus* (best greatest), and as the deity presiding over the sky he was considered as the originator of all the changes that took place in the sky. From him accordingly proceeded



1896, March, 2d. 6h. 30m. g.m.t. 1897, March, 9d. 11h. 55m. g.m.t. 1898, April, 4d. 9h. 55m. g m.t.



1899, April, 15d. 12h. 10m. g.m.t. 1900, April, 20d. 14h. 15m. g.m.t. 1902, June, 26d. 14h. 31m. g.m.t.

CHANGES IN THE ASPECT OF THE PLANET JUPITER OBSERVED AT VARIOUS TIMES

rain, hail and the thunderbolt, and he it was that restored serenity to the sky after it had been obscured by clouds. Hence the epithets of Pluvius (rainy), Tonans (thundering), etc., were applied to him. The most celebrated of his temples was that on the Capitoline Hill dedicated to him as Jupiter Optimus Maximus, jointly with Juno and Minerva. He was represented with a sceptre as symbolical of his supreme authority. He was the guardian of all property; and every Roman was believed to be under his protection and that of his consort Juno, the queen of heaven. White animals were offered up to him in sacrifice, his priests wore white caps, and his chariot was represented as drawn by four white horses. See JUNO.

JUPITER, the largest planet of the solar system, and the fifth (excluding the asteroids) in order of distance from the sun. Its mean diameter is about 86,500 miles; polar diameter about 83,000; its mean distance from the sun 483,300,000 miles; its period of revolution round it 11 years 10⅓ months; its orbit is inclined to the ecliptic at the angle 1° 18′ 40.3″. The inclination of its axis is 3° 5′ 30″, so that changes in the seasons must be almost unknown; its volume is 1,309 times that of the earth, but its mass is only 317.7 times.

Jupiter's satellite system is the most interesting of that of any of the planets. Altogether, nine moons are known; the four brightest, which were discovered three centuries ago, are visible in a very small telescope and even in a good field glass; the others are far too faint to be seen in any but the very largest telescopes, and there is indeed one of them so faint that it cannot be viewed visually with any telescope now in existence: it can only be detected by the employment of the photographic plate. The four brightest satellites were discovered by Galileo in 1610, and are sometimes referred to as the Galilean Stars. They are very large objects, their diameters ranging from 2,100 to 3,550 miles; the largest of them thus exceeds Mercury and approaches closely to Mars in size. These moons are comparatively very close to the planet, yet in 1892 Barnard, at the Lick Observatory, discovered a fifth, excessively faint, satellite whose orbit lies so far within all of them that this moon is but 69,000 miles from the planet's surface. The remaining four were discovered by photography. The sixth, seventh and ninth were found at the Lick Observatory, the first two by Perrine and the last by Nicholson, while the eighth was discovered by Melotte at the Observastory of Greenwich. It is remarkable that no less than four of the Jovian satellites were thus discovered at a single observatory. The orbits of the four newest satellites differ greatly from those of the older ones. While the five inner moons form a compact system whose nearly circular orbits all lie very approximately in one plane, the outer ones move in highly eccentric orbits which are greatly inclined to the planes of the others, and at great distances from the planet. Thus the ninth satellite is nearly twenty times as far away as the outermost of the older satellites; moreover, the eighth and ninth satellites revolve about Jupiter in a retrograde direction. This last fact raises interesting questions as to the mode of development of the system and even suggests the possibility that these fainter satellites may originally not have belonged to the system, but that they may be outriding members of the asteroid swarm, or some other bodies which approached so near to Jupiter that they were captured and forced to revolve around the planet. The following table contains the principal data referring to the nine known satellites.

SATELLITE	Discoverer	Distance from planet in miles	Period
Nameless....	Barnard, 1892...	112,500	11 h. 57 m.
Io.....	Galileo, 1610....	261,000	42 h. 28 m.
Europa.....	Galileo, 1610....	664,000	171 h. 43 m.
Ganymede...	Galileo, 1610....	415,000	85 h. 14 m.
Callisto.....	Galileo, 1610....	1,167,000	400 h. 32 m.
VI.....	Perrine, 1904....	7,110,500	251.0 days
VII.....	Perrine, 1905....	7,273,800	259.7 days
VIII.....	Melotte, 1908...	17,042,000	2.55 years
IX.....	Nicholson, 1914.	18,993,000	3.0 years

The disk of Jupiter is crossed in a direction parallel with the equator by three or four vividly marked bands or belts; other of these belts vary in density and distinctness. Spots also appear and remain for some time on its surface. In particular, a large red spot of varying dimensions has been observed from time to time. Prof. George Washington Hough sums up the results of his 23 years of observations of Jupiter somewhat as follows: First, its equatorial belt changes both in size and position slowly and gradually. Second, the fainter belts also vary. Third, the circular white spots are very permanent in latitude, but are not fixed in position one with another. Fourth, the dark spots of the same size as the circular white spots are not so stable as they, and probably lie at the level of the equatorial belt. Fifth, the large, irregular white spots near the equator make one rotation in 9 hours 50 minutes. As to the constitution of the planet, Professor Hough concludes that the matter at the visible boundary of Jupiter has a density about half that of water (the average density of the planet is 1.37 times that of water). The medium at the boundary is in the nature of a liquid. In it the great red spot and the circular white spots are located. In such a medium all motions would be slow and gradual and the shape and size of an object would be very permanent. The equatorial and polar belts may be located on the surface or at a higher level than the red spot. In middle latitudes within 20° of the equator the higher atmosphere carries a layer of dark matter. In this envelope are formed the openings that we call white spots, and by unequal distribution black spots. The belts may be assumed to be some sort of vapor of considerable density. The planet is at a high temperature, but not noticeably self-luminous.

JUPITER CAPITOLINUS, Temple of, the national shrine of ancient Rome. Situated on the Capitol, it was dedicated to Jupiter Optimus Maximus, Juno and Minerva. It is said to have been built by Tarquinius Superbus and completed in 509 B.C. It was built against the side of Monte Caprino, the southern summit of the Capitoline Hill and was supposed to stand on sacred ground. On account of its

position it could be approached only from one side. Owing to the early date of its structure it was Etruscan in style and had three rows of columns in front, to represent the trunks of the trees of the ancient forest shrines. This huge primitive building, which was destroyed by fire (83 B.C.) was rebuilt by Sulla and Cæsar. Augustus also rebuilt it in 9 B.C., and Vespasian restored it in 74 A.D., and Domitian in 82 A.D. It was finally plundered in 455 by the Vandals, who left it a ruin. Some of its buried remains have been unearthed at the foot of the hill. Consult Lanciani, R., 'Pagan and Christian Rome' (Boston 1893); Platner, S. B., 'The Topography and Monuments of Ancient Rome' (Boston 1911).

JUPITER SERAPIS, Temple of, a building at Pozzuoli, near Naples, which was at one time supposed to be a temple, and now popularly so called. It is now believed to be a market. The base of the building is now and apparently has been long under water. It at one time had 46 very high pillars of which only three are now standing.

JUPITER STATOR, Temple of, a religious edifice at Rome said to have been vowed by Romulus to Jupiter the "stayer of flight," so called because he answered the supplication of the Romans and restrained the flight of the latter before the Sabines, according to Livy (Book 1-12). Romulus apparently was not able to carry out his vow. But this was done, several hundred years later, by M. Atilius Regulus who erected the Jupiter Stator in 296 B.C. This, which was in the Corinthian style, is believed to have stood east of the Arch of Titus and close to the Sacred Way. Consult Lanciani, R., 'The Ruins and Excavations of Ancient Rome' (Boston 1897).

JURA, zhū'rą, a department of France situated on the eastern frontier. It is bounded on the north by Haute-Saône, on the east by Switzerland, on the south by the department of Ain and on the west by the department of Côte-d'Or and Saône-et-Loire. It is generally of a rugged nature, over two-thirds of its territory being covered by the Jura Mountains, which rise, in places, to over 5,000 feet. The lower level lands are on the west. Here the regular crops of France are grown in abundance. Among the industries of Jura are the mining of rock salt, coal, iron, marble and various other classes of stone, the manufacture of cheese and the cutting of timber. Area, 1,952 square miles. Pop. 153,000.

JURA, joo'rä, a chain of mountains in central Europe, partly belonging to France, partly to Switzerland, between which they form a sort of natural barrier, extending from southwest to northeast, and exhibiting a number of parallel ridges. The greatest length is nearly 200 miles, from Belley in France, department of Ain, to the banks of the Rhine; and the greatest breadth about 60 miles, between the Lake of Geneva and the banks of the Doubs. The principal geological formation is the Jura limestone, with greensand, belonging to the lower Cretaceous series. Stalactite caves are numerous. The two chief rivers having their source in the chain — the Ain and the Doubs — are both French. They descend from its western slopes, and belong to the basin of the Rhone. The highest peaks of the Jura are Crêt de la Neige, Reculet, Mont Tendre and La Dôle, all over 5,500 feet.

JURASSIC, a term used to indicate the second period of the Mesozoic era and the system of rocks formed at that time. Jurassic is preceded by Triassic and followed by Cretaceous. The formations of this period take their name from their prominent exposure in the Jura Mountains; but are known in Great Britain as the Oölites because there made up of granular (oölitic) limestones below the Cretaceous and above the Lias, from the latter of which the series is separated by no very definite boundary. In portions of America, Triassic and Jurassic are not easily differentiated and the inclusive term Jura-trias is often used. No definitely recognizable Jurassic rocks are known in United States east of the Mississippi River. In the Rocky Mountain region, the area was above water throughout early Jurassic as in Triassic, but late in the period an arm of the sea encroached from the Arctic, extending as far south as Wyoming, and thin marine limestones, sandstones and shales were laid down. These contain many fossils of Arctic relationships. Before the end of the period this sea had again retreated. On the Pacific Coast, marine conditions prevailed over the present site of the Sierra Nevada Ranges. The period was brought to a close by a great mountain-making revolution that upheaved the Sierra Nevadas and Cascades. At the same time great masses of granite (batholiths) were intruded.

Life of the Period.— During the Jurassic the most notable development of invertebrate life was among the Ammonite Cephalopods, which differentiated rapidly, and hence formed valuable time markers. Among vertebrates, the reptiles are easily dominant. The dinosaurs developed along several lines. Bipedal forms were common and were of two groups, the carnivorous and the herbivorous. Quadrupedal forms grew to be of enormous size, brontosaurus reaching a length of 60 or 80 feet and weighing over 30 tons. Strange armored forms also developed with long spikes on their tails. Marine reptiles also were abundant, ichthyosaur (fish reptile) having a truly fish-like tail and fins. Flying reptiles, known as pterosaurs (wing reptiles) became common. The larger ones had a wing spread of 20 feet and had hollow bones as do birds. The first true bird (*Archæopteryx*) (q.v.) has been found preserved in Jurassic rocks. It had feathers like modern birds, but was furnished with long, sharp teeth. A few minute remains believed to represent mammals have been found, the earliest remains of the mammal group. The plant life was very similar to that of the Triassic (q.v.).

JUREL, joo'rĕl, or **XUREL,** a fish of the genus *Caranx,* especially *C. crysos,* more widely known as the yellow mackerel and hard tail. Unlike most members of this tropical genus, the jurel is common as far north as Cape Cod. In Florida and the Gulf States it is an important food-fish, caught in seines during the spring and summer when in shallow water for the purpose of spawning. It is migratory, and like most wandering fishes carnivorous and voracious.

JURI, zhoo-rē', a once powerful Indian tribe belonging to the Arawakan family. They

are closely related in customs, racial appearance, traits and language to the Passé. Their territory once extended from the Lower Putumayo and Japurá into the northern tributaries of the Amazon. They are experts in the use of the canoe and were at one time very much feared by neighboring tribes on account of their deadly blowpipes. Their extensive dwellings are constructed of poles thatched with palm or other leaves, much like those in use everywhere throughout tropical America.

JURIEN DE LA GRAVIÈRE, zhū'rē'ăn' dĕ lă grȧ've'ăr', **Jean Pierre Edmond,** French writer and soldier: b. Brest, 1812; d. 1892. He began his active life in the sea service and became rear-admiral in 1855. He had charge of the French naval interests in the expedition to Mexico in 1861. The following year he arranged the Treaty of La Soledad with the other sharers in the expedition, Spain and England. On his return to Europe he was put in command of the Mediterranean fleet (1868–70). He prepared all the plans for the escape of the empress in 1870. The following year he became director of charts in the Naval Office and in 1888 he was made a member of the Academy on account of his literary and other services to his country. Among his published works, which are all on naval subjects, are 'Guerres maritimes sous la République et sous l'Empire' (1847); 'Voyage en Chine pendant les années 1847–50' (1854); 'Les Campagnes d'Alexandre' (1883–84); 'Les gloires maritimes de la France' (1888); 'L'Amiral Roussin' (1889); 'Les Anglais et les Hollandais dans les mers polaires et dans les mers des Indes' (1890); 'Le siège de la Rochelle' (1891); 'La flotille de l'Euphrate' (1892); 'Les Gueux de mere' (1892).

JURIEUX, zhū're'ę', **Pierre,** French writer and theologian: b. 1637; d. 1713. Although a voluminous writer and bitter controversialist in behalf of Protestantism, he is remembered now for two works, 'Histoire du Calvanisme et celle du Papisme' (1682) and 'Histoire critique des dogmes et des cultes' (1704).

JURISCONSULT (French *jurisconsulte,* Latin, *jurisconsultus,* one skilled in the law), one who gives opinion on cases of law; one learned in the law; and, specifically, a master of civil law. During the Republican period of Rome the jurisconsults, who were almost always men of independent means and good family, trained in the law, gave their legal advice free of charge as a means of adding to their friends and influence to aid them in securing some elective office. Under the Empire certain men were given the right to respond (*jus respondendi*) by the emperor. As these were among the most noted of Roman jurists, their decisions were ordered to be followed by the judges. Before long the jurists thus honored were almost all selected from the members of the Imperial Auditory; and as this was the highest court of appeal there arose the custom of making the lower courts follow the decisions of the higher; a custom now universally followed. The famous digest of Justinian was compiled from the writings of the imperial jurists, who had left, in a digested form, the case law of the latter part of the Republic and the first part of the Empire. Throughout the Latin countries the term jurisconsult is used in the sense of jurist. See CIVIL LAW; JURISPRUDENCE; ATTORNEY AT LAW. Consult Muirhead, 'Historical Introduction to the Private Law of Rome.'

JURISDICTION includes both the right to exercise authority (*imperium*) and the field within which such authority may properly be exercised (*dominium*), whether its limits be territorial or personal. In early law, jurisdiction in the second sense was rather personal than territorial, and the same must be true wherever distinct races occupy together the same territory. While the tendency is to gradually work out a system of law applicable to all inhabitants, the state must of necessity recognize the fact that its subjects of different races will consent to be governed only by separate and often contrasting systems. Such is the case, for example, in British India to-day. So, too, jurisdiction was divided according to the subject matter, and the Church secured and jealously maintained authority over all matters of conscience, and managed to extend the jurisdiction of the Ecclesiastical Courts to very important questions, including marriage, legitimacy, wills and administrations, and to actions affecting the personal rights of the clergy.

The Constitution of the United States discriminates clearly and sharply between the executive, the legislative and the judicial powers of government, and its provision that the Constitution and the laws of the United States made in pursuance thereof shall be the supreme law of the land, taken in connection with the provision that the judicial power shall extend to all cases arising under the Constitution, forms the basis of a jurisdiction which, at least in the extent to which it has been carried, is without precedent outside of the United States. It is by virtue of these provisions that the Federal courts exercise the power of declaring void acts of Congress or of the State legislatures which conflict with the Constitution of the United States. To this power and the energy and ability of the Supreme Court in its exercise are due the vigor and efficiency of the Federal government and the establishment of its supremacy within the field of its jurisdiction. This feature has been imitated in the several State constitutions with results unquestionably beneficial as a whole, and so important that the courts have come to be spoken of as the guardians of the constitution. But one result not so fortunate is that the legislative branch of the government, though in theory as much bound by constitutional restrictions as though there were no authority to which an appeal against the validity of its enactments can be taken, is manifesting a disposition to disregard them altogether, leaving the whole question of constitutionality to the courts. As our system of government provides no method by which the question can be raised, except in the course of a litigation in which one party relies upon the right conferred by such a statute, there are possibly many unconstitutional acts in force in the various States. A more important consideration is that a disposition on the part of the judiciary to interfere with matters properly legislative may thus be created, and lead to forced constructions by which any law which the judges believe to be bad is held obnoxious to the Constitution — resulting in illogical and

inconsistent decisions and a weakening of the authority of the courts.

The Constitution provides that the judicial power of the United States shall extend to controversies "between citizens of different States." The purpose was to open the way for legislation which would provide a tribunal in which the right of a citizen of any State to pursue his legal remedies could not be denied; probably, too, to afford him a tribunal less likely to be affected by local prejudice than a State tribunal of first instance, probably a County Court. It is not contended that anything further was designed, but upon this clause depends the most extensive and, except for the provision as to constitutional interpretation which we have just considered, the most important body of Federal decisions. The tendency of the Supreme Court was at first to hold that the Federal court should administer the law of the State in which it was sitting and that while a citizen of Pennsylvania, for example, having a claim against a citizen of New York, might, if he saw fit, bring his action in the Federal, rather than in the State, court — the law to be applied would be the law of the State of New York. But this rule has been departed from in the later decisions, and while the Federal courts still hold themselves bound to follow the interpretation put upon State statutes by the State courts (unless, of course such statutes are attacked as in conflict with the Constitution of the United States), they hold themselves free to disregard the interpretation of the common law by the State courts, and the system of law built up within the State by the adjudications of its courts, and to adopt their own interpretation, and follow their own judgment. That the Federal courts are popular is shown by the fact that the most important litigation, estimated on the basis of the amount at stake is, where possible, usually brought before them, notably proceedings against corporations and especially the foreclosure of corporation mortgages where it is quite common for the trustee for the bondholders to be a corporation or individual of another State, or where a committee of bondholders, or even a single bondholder, residing outside the State which is the domicile of the debtor corporation, is the plaintiff. This is sufficient to give jurisdiction to the Federal court.

We have therefore a most interesting condition of concurrent jurisdictions applying to every inhabitant of the United States. The Federal courts are courts of limited jurisdiction — limited to authority expressly conferred by the Constitution and laws of the United States, but once jurisdiction is established, unlimited in the scope of its exercise. Congress has prescribed that the jurisdiction shall only exist when the matter in controversy has a pecuniary value exceeding $2,000, and that actions shall be brought only in the district within which the plaintiff or the defendant resides and has made provision for the removal from the State courts of causes which might originally have been brought in the Federal courts. Some of the States have attempted to prevent this increasing jurisdiction of the Federal courts; for example, by the passage of acts providing as a condition of a license to a foreign corporation to do business within the State, that such corporation, if sued, would not remove the cause into the Federal court.

The field in which a State of the American Union may exercise its political or judicial authority is circumscribed by its geographical boundaries. The process of its courts can reach only persons who reside in, or voluntarily come into, their jurisdictional limits, or property which is located in, or is brought into, the territory of the State. An action for debt against a non-resident can be conducted only as a proceeding *in rem* against his property found in the State and held by writ of attachment; a judgment *in personam* against a non-resident defendant, who had not been served with initiatory process within the State or voluntarily entered an appearance, would be a nullity. A suit for divorce is a proceeding *in rem*, the *res* being the status of the parties; and, when brought in the proper matrimonial domicile, substituted service of the summons and bill outside the State will give the court jurisdiction. Criminals, who have become fugitives from justice, are brought into the State from which they have fled on requisition to the governor of the State in which they have taken refuge.

National governments are similarly restricted, though their jurisdiction has wider limits. These may extend far beyond their national frontiers to lands and peoples over which the governments hold complete sovereignty or even a mere suzerainty or protectorate. Or the *dominium* of a government may extend to persons of its own nationality living abroad, over whom, or in whose behalf, it claims extra-territorial rights. The extra-territorial jurisdiction formerly exercised by the nations of European race in the non-Christian and imperfectly organized polities of the Orient and the Far East has been greatly narrowed. It was abolished in Japan by treaties; it was declared no longer existent in Turkey by the law suppressing the capitularies and without regard for treaties. In Persia, China and a few other countries it is still the rule that nationals of European and American states can be tried for crime only in the consular courts of their own nationality; likewise these courts have exclusive jurisdiction in civil actions in which their nationals are defendants, or which involve their civil status. Controversies between natives and extraterritorialized foreigners are sometimes triable in mixed courts. The most important of these was the one long maintained in Egypt, and to which the principal nations, including the United States, each appointed a judge. There is a regularly organized United States District Court at Shanghai, forming part of the Federal judiciary system.

Some national governments claim permanent *dominium* over their nationals wherever they go and contest the jurisdiction even of the countries to which their former subjects have emigrated, and in which they have become naturalized. The Italian government, for instance, declined several years ago to surrender to the American authorities a former Italian subject, who had fled to Italy to escape trial in the United States for a crime alleged to have been committed by him in the latter country; the ground of refusal being that an Italian by birth or descent was answerable to courts of Italy alone for his delicts. His liability was not di-

minished by or altered by long absence from Italy, or by a voluntary change of civic status or allegiance, nor even by the accident of having been born in another country. The locus of the crime was considered quite immaterial. To prove its consistency the Italian government about the same time declined to accept jurisdiction in a case involving a young American, the body of whose wife had been put into a trunk and thrown into Lake Como. The nativity of the offender, not the place of the offense, fixed the jurisdiction; let American courts try Americans and the Italian courts administer correction to Italians. This is the American and English rule of jurisdiction turned upside down and inside out. The Italian government receded somewhat from its position, but from considerations of comity, and without abandonment of its principles. The rule of *dominium in personam* also permits the French and other Continental European courts to take criminal jurisdiction over persons who are not, and never were, within the orbit of their territorial authority, and to try and convict such persons in their abscence — which is the direct opposite of one of the fundamental principles of the common law.

STEPHEN PFEIL.

JURISPRUDENCE. The use of this term as an equivalent for "Law" is confusing and apt to conceal its real import. "Medical Jurisprudence," so called, is not even law, but a compilation of facts, taken from the science of medicine, which may be useful in the determination of questions of law. The title "Equity Jurisprudence" on a book generally indicates that it is a treatise on pleadings and procedure in the Court of Chancery, and when one speaks of American jurisprudence what is usually meant is the administration and practice of the law in America, specifically in the United States. These and many other similar uses of the term are incorrect. Jurisprudence is the science which concerns itself with the discovery and presentation in a systematic manner of the relatively few and simple ideas underlying the infinite variety of legal rules. In making its observations and deductions jurisprudence recognizes no limits of time and place; a rule stated in, or inferred from, a section of the Code of Hammurabi (B.C. 2340) is within its sphere of inquiry just as much as one declared in an act passed by Congress or a State legislature during the present year. Nor does the science take cognizance of the different classes of people whose wants were satisfied by the invention of a legal rule, nor the circumstances under which it was invented. The general rules of *hypothec* are applicable alike to a bottomry bond, a mortgage on land or a pledge of chattels; the general rules of possession, ownership and contract are applicable alike to mariners, landlords or pawnbrokers. Jurisprudence should not be confounded with the history of laws or of the law; a science which reduces legal phenomena to order and coherence is obviously something quite different from an historic exposition of the law of one or of many countries, or even the juxtaposition for the purpose of comparison of the rules embodied in various systems of law. The comparative study of laws engrossed the attention of Roman jurists, and in the *jus gentium* they put together the rules which they found to be common to a great number of legal systems. Their ideal was a universal code, from which all systems were imagined to be derivable, or toward which they were supposed to tend. It was in their efforts to realize this ideal that the Romans made a discovery of far greater importance than that of a merely material unity in the laws of many nations. There was disclosed to them a formal unity which enabled them to rubricate the essential principles of their ideal or "Natural law" in spite of the heterogeneous origin of their material and the differences of the methods of grouping the topics adopted in the various legal systems. In a word, the Roman jurists invented the science of jurisprudence, which differs from comparative law as much as it differs from legal history. In making this invention the Romans did a service for law, parallel to the service done by the Alexandrian Greeks for language when they invented grammar. The difference between comparative law and our science is well stated by Dr. T. E. Holland in his 'Elements of Jurisprudence' by the following illustrations: "It is the office of comparative law to ascertain what have been at different times and in different communities the periods of prescription or the requisites of a good marriage; it is for jurisprudence to elucidate the meaning of prescription in its relation to ownership and to actions at law, or to explain the legal aspects of a marriage and its connections with property and the family." A science of jurisprudence, to be sure, might be deduced from the observation of the laws of a single nation, just as the Alexandrian Greeks deduced a science of grammar from Greek, the only language they familiarly knew — and just as the general formulæ of grammar thus derived are applicable to all languages, so would a formal science of jurisprudence, though deduced from but one system of laws, be of universal application. While comparative law and legal history are not prerequisites, nevertheless they are invaluable aids toward the formulation of the science. Comparison of the laws enforced in the same country at different times, or of similar though not identical laws of various countries, greatly improves the possibility of separating the essential elements of the science from their historical accidents, and of discovering the relative importance of human wants by the universality (or the reverse) of legal provisions respecting these wants. The means whereby humanity has satisfied its wants are as infinite in number as the wants themselves, but humanity has not always, nor often, had clear conceptions of the ends to be attained by the means employed. Legal history, therefore, is a vast accumulation of complex and perverse facts. Jurisprudence obtains unity out of this complexity by observing the human wants for the satisfaction of which laws have been invented, and the modes in which such wants have been actually satisfied; by collating and digesting the facts observed, with no regard for their historical or geographical associations, and arranging the formal rules deduced from this matter in categories, according to logical principles derived from other practical sciences.

A formal science must necessarily begin with an understanding of the character of the phenomena about which it rationalizes; it can have no coherence if the thing with which it is concerned is given a name with complex and

shifting meanings. A discussion of the great variety of ideas expressed by the word "Law" is deferred to another part of this work. (See LAW). It must suffice here to define "Positive Law," with which alone the science of jurisprudence is concerned, as "a rule of external human action, recognized and enforced by a sovereign political authority." This definition is narrow enough not only to exclude the conceptions expressed by such terms as the "laws of nature" where the word "law" is used merely figuratively, but also to differentiate positive law from moral law, ethics, etiquette or the "code of honor." It is broad enough, on the other hand, to include rules established by custom when they have obtained recognition from the State, and regulations made by municipalities, corporations or other agencies, to which the sovereign political power has delegated some part of its authority. The action regulated must be a human action and it must be external; i.e., it must affect a thing or a person other than him who does the act. A thought is not an act until it finds expression in words or deeds. An omission, however, may be an act in law. Jurisprudence naturally falls into two divisions, public and private. The latter comprises the rationale of legal rules governing the relations of individuals among themselves. Public jurisprudence is that division of the science which is concerned with the rationale of the legal rules which govern the relations between individuals and the State. A third division of the science is sometimes made to include the rules governing the interrelation of States. Inasmuch, however, as there is no supernational authority to compel observance of these rules by mutually independent sovereignties, international law is lacking of the fundamental characteristic of positive law. It, therefore, fits only imperfectly into the scheme of our science. "The most obvious characteristic of the law is that it is coercive; it was invented because of transgressions. Even when it operates in favor of the legitimate action of individuals, the law does so by restraining interference with such action." This carries us forward to the subject of legal rights, the creation and protection of which are the primary objects of law. The elements of a right are, the person entitled, the act or omission, the object and the person obligated. A right has been defined by Holland as "one man's capacity of influencing the acts of another, not by his own strength, but by means of the opinion or force of society. When one is said to have a right to anything, or over something, or the right to be treated in a certain way, what is meant is that public opinion would regard with approbation, or acquiescence, his doing the act or his use of the thing, and would reprobate the conduct of any person who should prevent his doing the act or using the thing, or who should fail to treat him in the manner to which he is believed to be entitled." A right thus sanctioned is a moral right. When the capacity residing in one man to control a thing or the action of another is exercised with the assent and assistance, if need be, of the State, it becomes a legal right — and this irrespective of the moral sanction of the community. The distinction between public and private rights lies upon the surface. The State has the right not to be conspired against or not to have its peace disturbed. An act of treason is a violation of a public right residing in the State, and the State intervenes not only to punish the traitor, but to protect itself — for the State is to be regarded as a "person" by analogy, with rights that need to be safeguarded by itself as well as it safeguards the rights of private persons. Some trespasses are violative of a private as well as of a public right. A libel or an assault, for instance, infringes upon private rights and, also, upon the public right of the State not to be disturbed by acts constituting, or tending toward, breaches of the peace. All legal rights fall into one of the two categories, public or private. The division of the science of jurisprudence in two corresponding departments is, therefore, logically consistent. It commends itself also by the convenience of an arrangement whereby constitutional, ecclesiastical, criminal and administrative law, on the one hand, and the law of contracts, property, succession and torts, on the other hand, fall into groups, to one or the other of which all legal topics may be referred. The classification of rights under the heads, "Rights of Persons" and "Rights of Things," is logically imperfect as well as inconvenient in practice. The right to receive rent does not depend upon some distinctive characteristic of landlords as a class; nor would this right be affected because the landlord should happen to be following an occupation, say that of a pawnbroker, whose business is conducted under some special kind of administrative regulations. These regulations of the pawnbroking business in no way increase or impair the right of a pawnbroker, as landlord, to rent from a tenant. If a landlord should be an infant, however, a whole set of legal disabilities would come into play, affecting and modifying the antecedent right of this specific landlord to receive rent or the remedial right of the infant to enforce payment thereof. These modifying causes, affecting the relations between an infant landlord and his tenant, are entirely unconnected with the general rules of possession, ownership and contract, which govern the relations between landlord and tenant — and when both parties concerned are normal the "personal dimensions" of a right need not be considered at all. In most cases they could be utterly disregarded, for the conditions of abnormability in natural persons are not numerous. They are lunacy, infancy, coverture, alienage, outlawry and a very few others. By abstracting the rubric "rights of persons," which means nothing more than the law relating to varying legal capacities, and relegating this topic to a separate head — such as "the law of abnormal personality" — the definition and consideration of legal rights would be greatly simplified.

A legal right is either antecedent or remedial. An antecedent right is an exceptional advantage enjoyed by the person clothed with it. The right of an heir to a house and land devised to him, or the right of a merchant to goods purchased by him, are antecedent rights; and they are exclusive, because they are enjoyed by nobody else. Antecedent rights may be *in rem*, meaning that they are available against the whole world, as in the cases just mentioned; or they may be *in personam*, meaning that they are available only against a par-

ticular person. The right of ownership is a right *in rem*, it is available against the whole world; the right of a landlord to rent is a right *in personam*, for it is available only against his tenant. A remedial right arises when an antecedent right is violated. It is available only *in personam*, that is to say, against the person by whose infringement of an antecedent right the remedial right comes into being. Public as well as private rights may be either antecedent or remedial. The right of the State not to be betrayed is antecedent and is a right *in rem* because it is available against the whole world. When a traitor violates this antecedent right a remedial right *in personam*, available against the offender, is created. Antecedent private rights *in rem*, available against the entire world by those entitled to the enjoyment thereof, are: (1) The right to personal safety and freedom; (2) to the society and control of one's family and dependents; (3) to reputation; (4) to advantages open to the community generally, such as the free exercise of one's calling; (5) to possession and ownership; (6) to immunity from damage by fraud. Many of these, of course, become the objects of particular legal intervention only when they are infringed, as the right to personal safety is infringed by a menace, an assault or an act of negligence. Antecedent rights when not infringed, or when they are not "in motion"—meaning in process of creation, devolution or extinction—are said to be "at rest." When at rest such rights are, nevertheless, under the protection of the State through its powers of police. The State not merely punishes stealing, it prevents it. Every right has relation to some thing, and the object of a right may be tangible or intangible. The "bubble, reputation," is an intangible thing, to the enjoyment of which a man has a right, but which he cannot reduce to possession. The rights of possession and ownership, generally speaking, are extensions of the power of a person over tangible physical objects. Possession and ownership are not identical. The Roman jurists even maintained that the custody of a thing by a bailee did not constitute possession, and that the abstraction of the thing from his custody did not give the bailee any remedial right against the abstractor—no more than a servant could claim legal recovery of his master's goods left in his care and stolen by a thief. The modern English law holds just the opposite, as also did the ancient Teutonic law. "Violations of possession give rights of action independently of rights of property. Such rights of action are extensions of the protection which the law throws around the person." (13 Meeson and Wellsby, 581). The Salic law gave the person from whose custody cattle had been taken the sole right of recovery, exclusive even of the owner. To be in possession of a thing one must have it sufficiently in one's control to exclude others; but possession may be symbolical. By entry on any part of an estate an heir will be assumed to be in possession of the whole, and one who buys goods in storage may be put into possession by receiving the keys of the warehouse wherein they are stored, or by the transfer to himself of a warehouse receipt. The essentials of possession are the will and the power to possess and the exercise of both. "Neither the mere wish to catch a bird out of reach, nor the mere power to take a horse standing unguarded will suffice to put one in possession of the bird or the horse." The will to possess, or *animus domini*, rather than mere physical possession, is "nine points of the law." It is manifested in the largest and the smallest human relations—by a nation, which fights the world to keep a province, down to the individual, who defends property in his hands in the honest belief that he owns it, and the thief, who knows perfectly well he does not. The incidents of ownership are the right to possess, the right to enjoy and the right to dispose of property. The right to possess is lost or suspended by letting, lending, pledging or mortgaging property. The right to enjoy includes the right to the increase—growing timber, accretions of alluvion, the young of cattle, etc. The right of ownership is limited by the State through taxation, the prohibition of obnoxious use, or by taking in virtue of eminent domain; or it may be limited by individuals, as coparceners, neighbors having rights of way, rights of access to water or other easements, or right of support from adjacent soil. The right of disposal includes the right to destroy what one owns. A few kinds of things other than physical may be objects of ownership—patents and copyrights, for instance. Property is either movable or immovable—the distinction between real and personal is not quite the same, though nearly so. Property may be lawfully acquired by purchase, succession or prescription. Gift is a mode of succession. The right of ownership is terminated by the death of the owner. A dead man is not a legal person.

In the foregoing is shown the method whereby scientific jurisprudence prepares its material by formulating the myriads of juristic facts in a relatively small number of statements, capable of orderly arrangements within the compass of a single volume of moderate size. The nomenclature of the science, though an important element thereof, has not always been adhered to. It could have been adhered to strictly only at the sacrifice of popularity in treatment. Clarity seemed more desirable than profundity. It was possible to deal with only one class of private rights, and antecedent rights *in rem*, more specifically rights of possession and ownership, were selected for illustration because they present the fewest difficulties. A very much larger class of private rights than the one discussed are the rights *in personam*. To this class belong all the rights conceded by contract and, though these really partake of the character of antecedent rights, they are never available *in rem* against the world, but always against specific individuals. Under the general title "rights *in personam*" are gathered also all other remedial rights, whether they arise from breaches of contract or out of what the Roman jurists call "obligations *ex delicto*," which our lawyers classify as the laws of torts. A further division of law must still be considered. The rules wherein are defined the rights, whether public or private, which the State will support or protect, constitute the "substantive law." The rules prescribing the modes of aiding or protecting either public or private rights are classed as "adjective law" or procedure. Ju-

dicial intervention may be either preventive, as by injunction, or redressive. Redressive intervention is by far the more frequent mode, and in respect to private rights the redress usually takes the form of indemnity or damages. In some cases, however, the remedy is more direct, as when a nuisance is ordered abated, or the specific performance of a contract is decreed, or a mortgagor is put in possession of the property mortgaged by summary process. Rights of action are extinguished by release, waiver or condonation; by bankruptcy of the person liable; by set-off; by merger, as in the case of the substitution of a covenant or a judgment note for a simple contract — the substantive right is not extinguished, but the right of action on the less solemn evidence of the debt or obligation would be merged. Estoppel by judgment for the defendant, and by prescription or limitation, are the remaining modes of extinguishing remedial rights. The death of the person of incidence, i.e., the plaintiff in an action for tort, not merely extinguishes the procedural remedy, but the right itself. To this there is an exception when death caused by negligence or other tortious act is the ground of action. In such case the right and the remedy pass to the executor or administrator. Remedial rights may be suspended without being lost — as, when an action is pending in a court of concurrent jurisdiction, another court will not proceed with a suit to enforce the same right. Finally there is a private, as well as a public, international law. The questions that arise in this department of the law are mainly jurisdictional. When parties are nationals of, or are domiciled in, different countries a suit may be brought in a court of the country where the plaintiff is domiciled; where the defendant is domiciled; where the object of the controversy is situated; where a marriage, a will or other agreement, whereby a right was created, was performed or made; in a court of the country where a contract was to produce results or of the country where the plaintiff chooses to bring his action. The courts of the situs of the object of a controversy (*forum rei*) have always assumed jurisdiction in such cases. Jurisdiction is declined by the English courts in suits for divorce if the husband is not domiciled in the country, but there is no uniform rule on this subject in the United States. English and American courts will take jurisdiction in actions on contracts no matter where they have been made or where they are to be executed, provided the parties are within reach of their process. More complex than the question of the competency of the court is the question as to what country's law should be applicable in any given case. Some states claim exclusive rights to punish persons of their nationality for crimes, no matter where committed. There is such diversity in the rules that have been applied that a basis for general formulæ can hardly be said to have been laid in this department of jurisprudence. The formulation of the science was practically completed by the Roman jurists, who invented it, in the domain of private law at least. The 'Institutes' of Gaius, whereof those bearing the name of Justinian and produced four centuries later are merely a recension, are still the point of departure for all scientific studies of the law. Among English writers Jeremy Bentham (1748–1832) was the first to bring really scientific methods to bear on the subject. He was followed by John Austin, Sir Henry Maine and others. Thomas Erskine Holland in his 'Elements of Jurisprudence,' which first appeared in 1880, and whose arrangement of the topics and definitions have been followed herein, has set forth the subject in an exhaustive yet very compact form.

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STEPHEN PFEIL.

JURUA, zhoo-roo-ă', a tributary of the Amazon rising in the Andes of Peru and flowing northeast through Brazil toward the Amazon, which it joins at Fonteboa after a meandering course of 1,200 miles, about one-third of which is navigable. The country along the greater part of its course is subject to great floods during the rainy season. The vast districts of the upper waters of Jurua and its many tributaries have been little explored; and some of it is still unvisited by white men.

JURY, 12 impartial men, legally competent to act, who, under the sanction of their oaths, determine by their unanimous verdict the innocence or guilt of the accused in a criminal trial, or decide the issues of fact which are contested between plaintiff and defendant in a civil trial.

The jury is the characteristic feature of English or common law, distinguishing it from the systems of continental Europe derived from the law of the Roman Empire. It is peculiar in itself and incidentally it has produced characteristic developments of our law not found in the Roman or civil law systems, of which perhaps the most noteworthy is our law of Evidence. The history of the jury system has been most thoroughly and ably investigated, especially in recent years.

Its function has completely changed. Originally those persons from the vicinity who had knowledge of the subject matter were summoned to court to state, upon their solemn oaths, what the common opinion of the neighborhood was as to those facts which formed the basis of the criminal charge to be tried, or the basis of the right to possession or enjoyment of land which was at issue, which were the typical cases of early days. It seems to have been soon established that 12 substantial men were a sufficient number to determine this question. As the judicial system developed,

courts came to have more extended territorial jurisdiction, and litigation grew more extensive. Attendance of 12 persons acquainted with the facts of each cause to be tried would impose an intolerable burden upon the community, and our forefathers worked out the plan of submitting their legal controversies to the decision of an impartial jury sworn to determine the facts in issue upon testimony given under oath by witnesses summoned by the parties.

Students of English and American history would probably unanimously agree that as a part of our system of civil government the jury has been a valuable institution. There can be no doubt of its educational value, and of its importance in making each freeholder who served on a jury feel that he was individually performing an important public duty. Juries played a conspicuous part in defense of popular rights against attempts at tyrannical exercise of authority by the executive government. In the libel cases of the 18th century the contest was bitterly fought, the judges, under the lead of Lord Mansfield, maintaining that whether a document was libelous or not libelous was a question of law for the court (that is, for the judge) to determine, the jury being limited to finding affirmatively or negatively the fact of publication; while the juries, on the other hand, contended for their right to find general verdicts ("guilty" or "not guilty"). The contest was settled by Fox's Libel Act in favor of the right of the jury to determine the guilt or innocence of the accused.

Students of law differ as to the merits of the jury system. Arguments drawn from the supposed mental inferiority of juries need not be considered, since this is not an inherent defect, and there is no more reason why a community should have inferior jurymen than inferior officials of any other class. But weighty objections of an essential character have been suggested. The chief is as to the requirement of an unanimous verdict, which, it is argued, must constantly produce a disagreement and failure to reach a conclusion, or the sacrifice of opinions conscientiously held by some of the jurors. There is no doubt that this requirement is an essential feature of the jury system as known to English law; it has been expressly so decided by the Supreme Court of the United States which, in interpreting the cl use of the Federal Constitution which provides that in civil suits in the Federal courts "the right of trial by jury shall be preserved," has held that this requires the unanimous verdict of 12 men. A small number of the States have modified the system by providing for juries of less than 12, or of verdicts rendered by a vote less than unanimous. When such legislation is not in conflict with the State constitution it is lawful, as is doubtless the provision authorizing the service of women on juries.

Another objection is the doubt as to whether the jury is the best means of arriving at determinations of fact. This controversy has been bittery fought, one side maintaining that the jury is not fitted, either by training or capacity, to decide fairly and intelligently doubtful questions of fact, and that one of its most important functions, that of assessing damages, is not properly performed, especially where the requirement of unanimity necessarily leads to compromise verdicts. On the other hand it is argued that the jury, if properly drawn, represents the average intelligence of the community, and that when it does so, no fairer tribunal can be discovered, and not, perhaps, very consistently, that in civil matters control of the case is really in the judge, who by careful instructions can usually so direct the jury as to bring about an intelligent verdict, or, as a last resort, can set aside one which is clearly wrong, and award a new trial.

A verdict of acquittal in a criminal proceeding finally disposes of the charge against the defendant both by the common law and, in this country, by the provisions of the Federal Constitution (and of most, if not all, of the State constitutions) that no person shall "be subject for the same offense to be twice put in jeopardy of life or limb." Doubtless from this arose the doctrine that in criminal cases the jury are judges both of law and fact, which caught the popular fancy, is not without the weight of respectable judicial authority to sustain it, from the time of Junius, who upheld it in opposition to Lord Mansfield, has been a favorite doctrine of popular leaders, and only in recent years may be regarded as finally disposed of. The doctrine was discussed by Chief Justice Mitchell, of Pennsylvania, in a capital case in 1891, and pronounced by him to be "unsound in every point of view, historical, logical, or technical," and in 1895 the Supreme Court of the United States (speaking by Mr. Justice Harlan) reached the same conclusion and held that in the courts of the United States it is the duty of the jury in criminal cases to receive the law from the court, and to apply it as given by the court, subject to the condition that by a general verdict a jury of necessity determines both law and fact as compounded in the issue submitted to them in the particular case. Mr. Justice Gray filed a long and able dissenting opinion concurred in by Mr. Justice Shiras, and in this case, reported in 156 United States Reports (page 51), all the arguments on both sides can be found.

The grand jury is, historically, a sort of representative committee of the people of the district throughout which the jurisdiction of the court extends, charged with the duty of reporting to the court offenses which have been committed which they consider should be inquired into, and persons whom they believe to have committed criminal acts for which they should be punished. Its development into the modern grand jury is not well understood. The highest authorities on our early legal history say of it, "The details of this process will never be known until large piles of records have been systematically perused. This task we must leave for the historian of the 14th century."

The grand jury as an existing institution consists of a number of persons drawn from the same class as the ordinary or petit jurors. At the common law the number summoned was 23. They are sworn to the faithful discharge of their duties, and the court then delivers a charge to them, calling their attention to the duties they are to perform, either generally or with reference to any matters of special public interest falling within their jurisdiction to which the court thinks proper to direct their attention, and they can then proceed to business. All indictments are submitted to them and, according

as they determine, after hearing the prosecutor's evidence, whether they are well founded or not, they endorse them "true bill" or "ignoramus" (or equivalent words). In the former case the accused is held for trial, in the latter discharged. It is the custom for them to make report to the court on such matters as seem to them of public interest and importance, and to make such recommendations as seem good to them. The report made by them of any offense from their own knowledge or observation, without a bill of indictment laid before them, is called a Presentment. See VERDICT.

For the history of the origin and development of the jury, consult Pollock and Maitland, 'History of English Law' (Boston 1899); Thayer, 'Preliminary Treatise on Evidence at the Common Law' (chaps. ii–iv, ib. 1898); Stephen, 'Commentaries on the Laws of England' (Bk. V., ch. xiv); Stubbs, 'Constitutional History of England' (Oxford 1883); Cooley, 'Constitutional Limitations'; Lesser, 'Development of the Jury System' (1893); Forsyth, 'Trial by Jury'; Edwards, G. J., 'The Grand Jury Considered from an Historical, Political and Legal Standpoint' (Philadelphia 1906); Hamilton, T. F., 'Handbook for Grand Jurors' (Albany 1906); Sackett, Frederick, 'Instructions to Juries' (3 vols., Chicago 1908); Train, A. C., 'The Jury System: Defects and Proposed Remedies' (Philadelphia 1910). For a discussion of the merits of the institution under modern conditions which is generally accepted as full and impartial, consult 'The System of Trial by Jury,' by the late Mr. Justice Samuel F. Miller (21 Amer. Law Review, 859). For the origin of the grand jury, Pollock and Maitland, 'History of English Law' (Bk. II, ch. ix, § 4).

JOHN DOUGLASS BROWN,
Attorney at Law, Philadelphia.

JURY, a temporary contrivance employed to replace some part of a ship which has been lost or disabled. The word is supposed to come from the old French *mast d'ajuirie* (helping mast); but its origin is uncertain. The terms jury mast, jury rig, jury rudder, jury anchor all designate temporary structures. The word is usually used as an adjective.

JUS GENTIUM, jŭs jĕn'shĭ-ŭm, a term which, in its broader sense, means international law. Among the Romans the "law of nations" was used with a very wide application, including the laws observed by the civilized nations with whom they came into contact, that is, had relations with. It extended not only to diplomatic but also to commercial relationships. At a later period jus gentium became restricted to the rules and regulations observed by independent governments in their dealings with each other. See CIVIL LAW; INTERNATIONAL LAW; JUS NATURÆ.

JUS NATURÆ, or **NATURALE,** natural law, the principles believed to be common to all minds and necessary to the comfort and progress of humanity. The Romans sometimes confounded the jus naturæ with the jus gentium, or law of nations (q.v.). The Stoics developed the idea of the jus naturæ as an altogether ethical conception to designate the law as it should be for the benefit of humanity as contrasted with the law as it existed with its many imperfections and injustices.

JUS PRIMÆ NOCTIS, the privilege granted to other persons than the husband to cohabitate with the bride on the first one or several nights after the wedding. That such a custom existed there seems to be plenty of evidence; but that it was ever a law of tribes, peoples or nations is, at least, unproved. That there was a time in the history of humanity when the marriage custom did not exist and men and women cohabitated promiscuously seems almost certain, and it may be that the custom of jus primæ noctis was a survival of this more primitive condition of human society. There is considerable evidence to prove that this right was allowed and exacted among certain savage tribes, the favored persons being the high priests and chiefs. In most cases the conditions of society where this privilege prevailed permitted a husband to have as many wives as he could support. In general, as a race advanced in civilization and culture and monogamy became a fixed institution the custom of jus primæ noctis became more and more frowned upon. Consult De Labessade, 'Le Droit du Seigneur' (Paris 1878); Schmidt, K. J. L., 'Jus Primæ Noctis' (Freiburg 1881); Westermark, E., 'History of Human Marriage' (London 1908).

JUS RELICTÆ, in Scots law, the share of the widow in the movable property of her husband after his death, amounting to one-third if there are surviving children or grand-children and to one-half if there are none. The husband by will could not take this share away from the widow, but by express contract she could accept an equivalent provision. However, if the husband dies insolvent, the creditors must be paid in preference to the widow.

JUSSERAND, zhu's'-răn', **Jean Adrien Aubin Jules,** French philologist, historian and diplomat: b. Léon, 18 Feb. 1855. He graduated in law and, entering the diplomatic service in 1876, he became legal adviser to the French embassy in London in 1887; Minister to Denmark in 1898; and Ambassador to the United States in 1902. He is vice-president of the Historical and Literary Society of France, Grand Officer of the Legion of Honor and Corresponding Fellow of the British Academy. Among his published works are 'Le Téâtre en Angleterre depuis la Couquête Jusque aux prédicesseurs immediats de Shakespeare' (1878); 'Les Anglais au Moyen Age' (1884); 'Le Roman Anglais' (1886); 'A French Ambassador at the Court of Charles II' (1892); 'L'épopée mystique de William Langford' (1893); 'Histoire du peuple Anglais' (3 vols., 1895–1909). His 'History of the English in the Middle Ages,' which was crowned by the French Academy, was translated into English under the title of 'English Wayfaring Life in the Middle Ages' (1889) by Lucy T. Smith; and the 'Roman Anglais' was also translated into English by Miss E. Lee in 1890. In 1913 he published 'Rousard.'

JUSSIEU, zhu'sē-ĕ', **Laurent Pierre de,** a French writer: b. Villeurbanne, 1792; d. 1866. A nephew of Antoine Jussieu and grandnephew of Joseph, Bernard and Antoine (the elder) de Jussieu, he inherited much of the talent of his illustrious ancestors. After the Revolution of 1830 he became secretary-general of the Seine and in 1839 a member of the

Chamber of Deputies. After the fall of Louis Philippe he retired to private life. He was a strong and consistent advocate of general primary instruction and fought for the extinction of illiteracy from among the French laboring classes. He wrote extensively for the public press and published numerous educational works that had wide circulation and extended influence. Among the latter are 'Simon de Nantua' (Paris 1818), which has been published many times and in all kinds of editions and translations into several foreign languages; 'L'Abbé Gauthier, de Montègre, Moreau de Saint Méry et Mesnier' (Paris 1819); 'Le village de Valdoré' (Paris 1820); 'Antoine et Maurice' (Paris 1821), which was crowned by the Society for the Improvement of Prisons; 'Exposé analytique de l'Abbé Gauthier' (Paris 1822); 'Pierre de Giberne' (Paris 1825); 'Œuvre Posthumes de Simon de Nantua' (Paris 1829), which won the Montyon prize of the Academy; 'Les Petits Livres du père Lami' (6 vols., Paris 1830–42); 'Fables et contes en vers' (Paris 1844); 'Cloud Grangambe' (Paris 1854).

JUSTE, zhüst, **Theodore,** Belgian historian: b. Brussels, 11 Jan. 1818; d. August 1888. He was secretary of the Belgian Board of Education and as such made many beneficial changes in the national methods of instruction. He was a prolific writer on Belgian and French history, the most noteworthy of his works being 'Histoire élémentaire de la Belgique' (1838); 'Histoire de la révolution Belge de 1790' (1846); 'Précis de l'histoire du moyen âge' (1847–49); 'Le soulèvement de la Hollande en 1813, et la fondation du royaume des Pays-Bas' (1870); 'Guillaume de Taciturne' (1873); 'Léopold I et Léopold II, rois de Belges' (1878); 'Les fondateurs de la Monarchie Belge' (27 vols., 1865–81); 'La révolution de juillet, 1830' (1883), etc.

JUSTI, yūs'tē, **Ferdinand,** German writer and philologist: b. Marburg, 1837; d. 1907. Educated at Göttingen, he became professor of comparative philology in his native town in 1865. There he devoted his time to the study of Oriental languages. Among his published works are 'Ueber die Zusammensetzung der Namen in den indogermanischen Sprachen' (1861); 'Handbuch der Zundsprache' (1864); 'Geschichte des alten Persiens' (1879); 'Dictionnaire Kurd-française' (1879); 'Kurdische Grammatik' (1880); 'Geschichte der Orientalischen Völker im Altertum' (1884); 'Iranisches Namenbuch' (1895); 'Hessisches Tractenbuch' (1900); 'Geschichte Irans von den ältesten Zeiten bis zum Ausgan der Sassaniden.'

JUSTICE (French, *justice,* Latin, *justitia*), one of the cardinal virtues of the Greeks and the Romans. It seems to have been a personification of social and moral duty, that is, of the moral law, which might or might not correspond with the temporal law. Justice was the highest idea of the correct bearing of all the members of a community to one another and of the law of the state to the individuals constituting its population. An action or condition might be legally right and morally wrong, as the holding of slaves, the torturing of prisoners taken in war, the exactions often made by the ruling classes upon the peasantry, the persecution of the members of one sect by those of another. The customs, conditions and laws of states and communities change with the changing times; but Justice remains the same in all ages and among all peoples, since it is based neither upon man's conception of what justice really is nor upon his administration of what he calls justice, but upon the intrinsic and inherent rights of all, born of the social equality of all before the law. Thus the ancient conception of justice, carried to its natural conclusion, was purely democratic; and among the philosophers it maintained this complexion even in the most autocratic periods in the life of Greece and Rome. But as the conception of Justice as one of the graces was largely academic, autocracy had little to fear from it. Yet to this persistent personification of Justice later democracy owes much of its ability to state concisely and clearly its position as champion of the rights and obligations of humanity as a whole. The conception of absolute justice as the securing to humanity security of possessions, freedom of action and the right to realize expectations in so far as these do not conflict with similar rights and privileges of the community as a whole is not new. It is as old, at least, as the struggle of the upper and the lower classes in Rome, and probably much older; but it has remained for the present age to analyze more closely the attributes, functions and field of action of ideal justice, which, from the very fact of its being ideal, is never fully attainable, since there is and cannot be any such a thing as absolute justice, the administration of which would presuppose absolute perfection in the human race. Justice, as an ideal virtue (or as the personification of such), is therefore an aim in the administration of the law to be continuously striven for with the hope of getting constantly nearer to it; but also with the moral certainty of never ultimately reaching it in this world. See ETHICS.

Bibliography.— Alexander, 'Moral Order and Progress' (London 1899); Albee, 'History of English Utilitarianism' (London 1902); Aristotle, 'Nicomachean Ethics' (Peters' translation, London 1881; Willdon's, London 1897); Hegel, 'Philosophy of Rights' (London 1896); Hobbes, 'Human Nature' (1650); Hume, 'Treatise of Human Nature' (1740); 'Enquiry Concerning the Principles of Morals' (1751); Plato, 'Republic' (Jowett's translation, London 1893); Santayana, 'The Life of Reason' (New York 1905); Sidgwick, 'The Methods of Ethics' (Oxford 1893); Spencer, 'Principles of Ethics' (London 1879–93); Sutherland, 'Origin and Growth of the Moral Instinct' (London 1898); Westermarck, 'Origin and Development of Moral Ideas' (London 1908).

JUSTICE. John Galsworthy's play 'Justice' belongs to that imported school of drama that found some lodgment in England and America during the first years of the 20th century and accompanied the movement for repertory theatres to play to the few rather than to the many. While it deals with English characters the spirit and the manner of attack are characteristically continental. In no respect does this play nor the class to which it belongs connect with the historic strains of the English theatre. This isolation from English manners and molds of thinking in the theatre is revealed as much in the extraordinary technical

and moral honesty of the work as in its divergence from conventional British themes. As a novelist Galsworthy had been influenced in turn by French and Russian schools of literary manners. From the first he derived a certain scholarly detachment, a certain lack of heat in dealing with pregnant topics; from the second a brooding note of high cosmic seriousness. Clearly as he sees facts, and few modern writers are better students of detail than he, Galsworthy is most interested in the truth behind the facts. The pressure of larger issues governs the plots of most of his novels and all of his plays, and provides the explanation of that "locked" type of the tragedy of footless discontent that he has written so much. In the handling of the characters, in the display of the petty lives of infinitesimal men and women working under the sway of mighty forces the play is like many of Hauptmann's. In attacking a code of justice it is like Brieux's 'The Red Robe.' Really it lies between these two, between a diatribe against man's injustice under the name of law and a dispassionate etching in cold black and white. There are in it some points of resemblance to the same writer's earlier 'The Silver Box' in that this also is a study of the improper balancing of the scales of the law. Neither in action nor in its message does 'Justice' command a large audience. This fact should not blind us to the unusual claims of the play for high consideration as a stage work. For sheer vividness of unliterary appeals, for the power to project an impression without words and even without movement, for the power to turn the glass on nature and make even dull hours intense with interest the play takes high rank. There can be no question as to the effectiveness of the author's artistry. Whether his general theme has the relevancy he attaches to it may be open to question. 'Justice' was presented as the first play of Frohman's Duke of York's Repertory Theatre under the direction of Granville Parker, 21 Feb. 1910. It has often appeared in the repertories of "new" theatres, and was given a distinguished production in 1916 in New York city. Consult Dukes, A., 'Modern Dramatists' (1912); Herford, C. H., 'Essays and Studies' (1914); Galsworthy, J., 'The Inn of Tranquillity' (1913).

THOMAS H. DICKINSON.

JUSTICE, Department of, in the United States, an executive branch of the government, the supreme head of which, the Attorney-General, is appointed by the President and confirmed by the Senate. He is a member of the Cabinet, according to the provisions of the Act of Congress of 19 Jan. 1886, ranking fourth, after the Vice-President, in the line of succession to the Presidency in case of a vacancy in that office, and his salary is $12,000 a year.

The office of Attorney-General was established in 1789, almost at the beginning of the government, being provided for by the great act that established the Federal courts, but the Department of Justice was not organized into a separate department nor placed under the charge of the Attorney-General until 1870, when by the act of 22 June of that year the establishment of this department brought under his control all United States district attorneys and marshals and secured uniformity in the trial and prosecution of cases. By this act the solicitors from the Interior, Navy and Treasury departments and the examiner of claims of the State Department were also brought under the control of the Department of Justice.

As head of the Department of Justice, the Attorney-General is the chief law officer of the government, is the legal adviser of the President on any questions of law which may arise in the conduct of administrative affairs, and is also required by statute to give his advice and opinion, when requested, to the head of any executive department on any question of law arising in his department. The Attorney-General represents the government in all cases at law to which it may be a party, but he rarely argues the case in person, this work being performed by his subordinates, whom he appoints, or by special counsel whom he is authorized to employ in cases of especial importance to the government. The Attorney-General passes upon the validity of the title to public lands or other property to be purchased by the government for the erection of public buildings or for other public purposes; he also exercises general superintendence and direction over the attorneys and marshals of all the districts in the United States and the Territories as to the manner of discharging their respective duties, and makes an annual report to Congress on the business of the Department. The supervision of the penal and reformatory institutions of the United States, the supervision of the revision and codification of the criminal and penal laws, the recommendation of judicial appointments, the administration of the national bankruptcy laws, investigation of applications for clemency, etc., are other duties which come under the direction of the Department of Justice. Two assistant attorney-generals were provided for in 1868 — one of whom was placed in the Supreme Court, the other in the Court of Claims. There is also an assistant for the Interior Department, one for the Post-Office Department, and one to handle Indian depredations claims.

The solicitor-general, whose office was created in 1870, ranks as second officer of the Department of Justice; takes the place of the Attorney-General in the latter's absence, and also has charge of the conduct of cases in the courts at Washington.

JUSTICE, Legal, a term used in two senses, one of which makes it equivalent to the justice meted out by the administration of the law, and the other of which considers it as the equivalent of the moral right in a question at issue, irrespective of the attitude taken by the law itself or its administrators. A decision may be, and sometimes is, legally correct, but morally unjust. In this latter sense there is a survival of the classical idea of justice personified as a cardinal virtue. Legal justice, in adjudging a case, is required to take into consideration all the facts and circumstances in the case and their bearing upon one another and upon the individuals and rights and other matters concerned in the legal decision or decree. All this must be done in conformity with the law and its particular bearing on the case. The object of the law is to do justice to the individual while protecting the community as a whole. Through its inflexibility the law may occasionally work a hardship upon the individual. This

is because it is finite and the ever-changing conditions of humanity are infinite. The tendency of the whole body of the law is gradually to provide a fuller and freer administration of justice to the members of all classes of society. But one of the troubles in the administration of strict legal justice is the fact that the various parts and sects of society have, more especially in the past, had a tendency to be notoriously unjust to one another. The upper classes have exploited the ignorance and impotence of the lower classes. In modern times men with vast capital at their command have been able to secure legal decisions that were not conducive to the general good of the community and which worked hardships on individuals. Under the shadow of the law powerful financial concerns have driven weaker ones to the wall and made their possessions their own in as joyfully a freebooter's way as the barons of the Middle Ages gathered to themselves, by the sovereign right of might, the possessions of their neighbor, including his men-servants and his maid-servants. Legal justice aims at administering right to all; but the imperfection of its machinery makes the attainment of these aims not always possible. The law has within in itself the power to remedy the evils inherent in itself. This makes possible the continuous improvement in the administration of justice. See LAW; JURISPRUDENCE; JUSTICE.

JUSTICE, Lord, a person invested with royal authority in England for limited purposes and for a short period, during the absence of the monarch. The practice has entirely fallen into desuetude. Queen Victoria and her successors have never appointed lord justices in their absence; George IV was the last king of England to do so. The powers of lord justices have been confined to pardoning or reprieving convicts, summoning or proroguing Parliament, disposing of treasury funds, and making Church preferments. In the absence of the viceroy from Ireland lord justices have sometimes been appointed to perform his functions.

JUSTICE, Lord Chief, the title of the chief judge of the King's Bench division of the High Court of Justice in England. Before the abolition of the Common Pleas division of the High Court in 1881 the title lord chief justice was also used to designate the chief judges of the latter.

JUSTICE OF THE PEACE, minor magistrates in English-speaking countries appointed to keep the peace in the jurisdiction to which they are assigned. In England these officials are appointed by commission of the Crown, by act of Parliament, or by charter, with well-defined duties "to keep all ordinances and statutes for the good of the peace, and for the good rule and government of all the people." In the United States, in some cases justices of the peace are appointed by the executive, in others they are elected by popular suffrage. Their powers and duties differ somewhat in the several jurisdictions, but in general they have jurisdiction in minor civil and criminal cases, their powers being expressly defined by statute. They also conduct a preliminary inquest or examination of offenders charged with felony and hold such for the upper court, bail being allowed in nearly all cases except murder. Consult Baylies, E. (ed.), 'Bender's Justices Manual of Civil and Criminal Law and Practice for Justices of the Peace and Police Justices in New York' (3d ed., New York 1913); and Haines, E. M., 'Practical Treatise on Powers and Duties of Justices of the Peace and Police Magistrates' (16th ed., Chicago 1905).

JUSTICES' CLERK, an officer in England who assists the justices of the peace. He is always a lawyer and generally has much influence owing to the fact that many of the justices of the peace fall short of the requirements of their office in so far as familiarity with the law is concerned. Though the justices' clerk is not looked upon as a public officer, he has a certain legal standing and is permitted to collect fees for the business of his court.

JUSTICIARY, High Court of, the supreme criminal court of Scotland, having authority to try all crimes except those excluded by statute. It is said that decisions of this court are not subject to appeal or review, but it is probable that the House of Lords could hear an appeal on a question of law. The lords of judiciary hold circuits twice a year, there being three circuits, the northern, southern and western.

JUSTIFICATION. Under this head fall many intricate problems toward the solution of which theology contributes in its discussions of that very abstract subject: Grace. The term explains itself and no matter where it is applied the fundamental idea is the same and means pardon, acquittal, readjustment, restoration. In divinity it aligns itself very closely with atonement and imputation (q.v.). No matter how opinions may differ as to its nature, there is agreement on this, that justification may be defined as that process whereby fallen man is forgiven his transgression and restored as much as is compatible with his changed condition to the state and privileges which were his before his disobedience. All Christians admit that this repristination came and comes through Christ. It has been and is the duelling ground of the two religions which have most largely divided the world. Relating to this topic the attitude of Catholics and Reformers is antipodal. The leader of Protestantism is clear in his affirmation. Catholic teaching and dogmatic enunciation is not one whit less positive. The question is cardinal for both. In the process of justification the agent is God through Christ; the object, man. The crux of the difficulty is how does God effect it and how is man affected by it. Is righteousness imparted or infused? Luther and his disciples consider justification as imputed to the individual. This restored condition is something outside himself, with which he has nothing to do. "The justified man is not only acquitted as innocent but regarded as having perfectly obeyed the Law in the person of Christ. There is to him the non-imputation of sin and the imputation of righteousness." "The faith doth not shut out repentance, hope and the fear of God in every man justified, but it shutteth them out from the office of justifying." (Church of Eng. Homily). It becomes imperative for every attempt to solve this problem to consider man's will and divine grace. Luther apprehensive lest by any concession he might minimize the value of the latter denied free will in human nature and asserted that by

faith, a strong faith in the special mercy of God, and by that alone man was justified. To use his own words (Cap. 2 ad Galat.): "Faith, without and antecedently to charity, justifies." Faith does not cause justice in any way — it is not the cause but the organ of justification. Man is in no way intrinsically affected by it and its essence is in the imputation of the justice of Christ. Calvin referring everything to the elect teaches that faith once received can never be lost, that is, a man justified is so forever, independently of his actions. Baptism is not necessary for salvation. The predestination of the elect is their salvation. The breaking up of Protestantism into the many denominations which now exists necessarily brought variants in this doctrine, yet it may be put down as the generally accepted formula. The idea was not new if we are to credit what Saint Augustine says (De fide et oper. 14) wherein he remarks that even in the time of the apostles some, not understanding, concluded from the epistles of Saint Paul that faith alone was necessary for salvation, whereupon Peter, James and Jude wrote to instruct the faithful that such was not the meaning of Saint Paul's words. The Catholic theology has been reproached with emphasizing the worth of man's works to the detriment of divine grace. The doctrine of Catholics is that Pope, councils, the fathers, the doctors and the apostles, and hence Christ, affirmed that justification is of a nature to require, except in infant baptism, good works on the part of man to ripen unto salvation. Faith alone will not suffice. It is gratuitous and unmerited save through Christ. It is supernatural. It is a created gift and when bestowed, as in justification, the recipient becomes inherently just, not accidentally nor vicariously. Initial justification is infused in baptism, which sacrament incorporates the one baptized into and with the mystical body of Christ, his church, and lives by grace, which is living of the life of Christ as an engrafted branch lives the life of the vine. In this incorporation, since Christ is Son of God, is founded the adoption and heirship of the baptized as sons of God. What is said of baptism is held concerning justification as administered by the other sacraments. It is not contended that by it sin is blotted out "historically," that is, sins committed do not cease to be part of man's past, but are remitted inasmuch as they are provocative of God's anger and as truly pardoned as if the sinner had never rendered himself guilty of them; they are effaced in the moral order and in the physical order the stains they leave on the soul are washed out, stains which make the soul displeasing to God. Natural powers, no more than the Mosaic law, suffice for salvation which is to be reached through Christ only and for which in the adult some disposition of his own contributing is requisite. Moreover, while by justification sin is remitted, this remission calls for an interior disposition and renovation of soul, whence justification is a quality superadded to the soul to which it is inherent and therefore is more than transference or imputation. The fruits of justification are the rendering of man pleasing to God, just, beautiful, like unto Christ, a living member of Christ and God's son by adoption, heir to the kingdom of heaven, a participant in the divine nature (*Consors divinæ naturæ*) and capable of condign merit. When a man is justified there is within him a special indwelling of the Holy Spirit. There is no understanding with accuracy these different theories of justification save by a thorough inquiry into the views of theologians on the very abstruse questions of the incarnation and grace.

Bibliography.— Denziger, 'Enchiridion'; Humphrey, 'The One Mediator'; Mohler, 'Symbolism'; Newman, 'Justification'; Oxenham, 'The Catholic Doctrine of the Atonement'; the works of Luther, Melanchthon, Calvin, etc.; Decrees of the Council of Trent; Systematic Theologies; Art, Rechtfertigung, Kirchenlexicon.

PATRICK A. HALPIN,
Professor of Ethics, New Rochelle College.

JUSTIFICATION (Latin, *justificatio*, justification), a defense in a civil or criminal action showing that the defendant was legally justified in doing what, it had been admitted in court, he did do, and that, therefore, the alleged cause of action is not legally sufficient. All the facts to be used in the justification must be legally set forth as such and as constituting an answer to the action; and the conclusion to be drawn therefrom depends upon those having the legal power of decision in the case. The presentation of facts of justification is common in cases of accusation of crime. A man accused of homicide may plead that the act was committed in self-defense, or in the execution of the law by an officer of the law or his aiders or assistants. A policeman may plead that he killed a man to prevent his escape or because he showed fight, or because he refused to surrender when called upon to do so. An automobile driver may defend himself against an action for homicide on the ground that he had taken all possible care, that he had not exceeded the speed limit and that the death of the party in the case was due to his own carelessness, or to some accident or condition over which the accused had no control.

JUSTIFICATION, or **PROOF BY SURETIES,** is a term employed in the legal action taken by the said sureties on a bond or undertaking to prove that they possess the requisite legal property qualifications.

JUSTIN (MARCUS JUSTINIANUS JUSTINUS), a Latin historian, who probably lived at Rome in the 2d or 3d century A.D. He made an epitome of the general history of antiquity by Trogus Pompeius, a native of Gaul, who lived in the time of Augustus, and whose work is no longer extant. This epitome, although incorrect in detail, is valuable for its compressed reproduction of the old histories. The first English version, by Goldingé, appeared in 1574.

JUSTIN I, Byzantine emperor: b. 450; d. 1 Aug. 527. He was a peasant of Dacia and rose from the rank of a common soldier to the commander of the imperial guard, and on the death of Anastasius I in 518 became emperor. He relegated the civil administration to the quæstor Proclus, and between them the empire was governed with a fair amount of success. Consult Bury, 'Later Roman Empire' (1889).

JUSTIN II, Byzantine emperor: d. 5 Aug. 578. He succeeded his uncle Justinian I in 565. In 574 his difficulties led him to abdicate in favor of Tiberius, captain of the guard. During his reign northern Italy was conquered by the Lombards, and the Persians took pos-

session of several Asiastic provinces of the empire.

JUSTIN MARTYR (JUSTINUS MARTYR), a Christian apologist and martyr: b. Flavia Neapolis, Shechem, Palestine, 100 A.D.; d. Rome, 165. He began active life as a professor of Platonic philosophy, and subsequently embraced Christianity without abandoning Platonism. He was a staunch adherent of the Christian party in the empire, a keen confuter of Gnosticism and an unwearied defender of the Christian doctrine of the Logos. In every department of Christian dogmas he stood foremost as a teacher. Eventually he went to Rome (150 A.D.) and during 10 years of activity he wrote his 'Apology,' with a supplement known as the 'Second Apology,' addressed to the Emperor Marcus Aurelius. He afterward had a controversy with a Jew, an account of which is embodied in his 'Dialogue with Trypho the Jew.' He was put to death for his faith, and his day on the Church calendar is 31 April. Consult Migne, 'Patrologia'; Semisch, 'Justinus der Märtyrer'; Aubé, 'Justin, Philosophe et Martyr' (1874).

JUSTINA, the second wife of Valentinian I, and mother of Valentinian II. She was successful in her efforts to restore her son to the throne. Her influence was not powerful enough to prevent Valentinian from accepting baptism at the hands of Ambrose, in spite of her sympathy with the Arians and her antipathy for Ambrose.

JUSTINIAN I (FLAVIUS ANICIUS JUSTINIANUS), surnamed THE GREAT, emperor of the East: b. of Gothic peasant parentage at Tauresium, Illyricum, probably 11 May 483 A.D.; d. 14 Nov. 565. Patronized by his uncle, Justin I, who, from a Thracian peasant, had become emperor, he so flattered the Senate and dazzled the people that he was made consul, and took the title of *Nobilissimus*. On the death of his uncle, with whom he had latterly shared the imperial power, he was proclaimed emperor, and married an actress named Theodora. During his reign the party disputes of the Greens and the Blues became so violent, that in his attempt to quell the tumults the emperor's own life was in jeopardy, and a great part of Constantinople was destroyed by fire in 532. Aided by his generals, he was able subsequently to restore to the Roman Empire a part of its former possessions, as when Belisarius in 523 and 529 defeated the Persians, and achieved victories in Africa, and when Narses put an end to the Ostrogoth rule in Italy. Turning his attention to the laws, Justinian commissioned 10 learned civilians to draw up a new code, and the result was the 'Corpus Juris Civilis,' or body of civil law. He took great interest in building cities, fortifications and churches; among the latter he rebuilt the church of Saint Sophia at Constantinople. To maintain his public munificence he oppressed the people with taxes. Consult Finlay, 'History of Greece' (1880); Hodgkin, 'Italy and her Invaders' (Vol. IV, 1880); Bury, 'Later Roman Empire' (1889); Hutton, 'The Church in the Sixth Century' (1897); Gibbon, 'Decline and Fall of the Roman Empire' (ed. by Bury 1896–1900).

JUSTINIAN II, surnamed RHINOTMETUS, Byzantine emperor: b. 669; d. December 711. He succeeded his father, Constantine IV, in 685, and was deposed and banished for his cruelty, by his general, Leontius, in 695. He regained his throne 10 years afterward, and was overthrown by Philippicus Bardens and killed.

JUTE. Two species of plants yield the jute of commerce, *Corchorus capsularis* and *C. olitorius.* They are tall shrubs, 8 to 15 feet high, the fibre being produced in the bark, and known as bast fibre. Supposed to be indigenous to India, where the species grows wild, cultivated to a limited extent by other Eastern people, as the Chinese and Malays, *C. olitorius* is naturalized in all parts of the tropics to the shores of the Mediterranean. Jute was introduced into the United States by the Department of Agriculture in 1870 (consult various articles in Monthly Reports of department 1870–75), and was found to be adapted to cultivation along the line of Gulf States from Texas to South Carolina. It should be noted that the China jute of commerce is not jute at all, but a similar bast fibre derived from *Abutilon avicennæ.* This plant was experimented with in New Jersey 25 years ago, though unsuccessfully, the fibre being wrongly called American jute. In India many kinds of jute are recognized, all being known under local trade names, which are unimportant here. The value of jute as a textile lies wholly in its fineness, silkiness and adaptability to spinning, low cost of the raw material being another advantage. Several American fibre plants classed as weeds yield a better, whiter and stronger fibre, though they cannot be utilized for economic reasons. (Consult special report on bast fibres, No. 6, Office of Fibre Investigations of Department of Agriculture). The fibre of jute, compared with other textiles, is quite inferior, the bleached filasse soon losing its whiteness and becoming a dingy, dirty brown, while its strength rapidly deteriorates. Nevertheless it may be regarded as one of our most useful fibres — too useful in certain directions, as its fineness and lustre, as well as cheapness, adapt it most readily to purposes of adulteration, and as it takes colors easily it can be stained or dyed to imitate many of the other fibres, though such frauds can be readily detected. The uses of the fibre are many, and it enters into all classes of textiles from woven fabrics of great beauty to coarse ropes and bagging. In the manufacture of fabrics it goes into curtains, chair coverings, and other forms of upholstery, carpets, webbing, burlap and bagging (especially cotton bagging), and it has been employed for imitation silk fabrics, although for this purpose the fibre requires a special treatment in order to subdivide it more finely and render it more glossy. The fibre is also made into all kinds of cordage, either honestly, as jute, or as an adulterant, considerable quantities having been used in past time for the manufacture of binding twine. It is largely employed for fine and coarse twines, small rope, sash cords, etc., and where cheapness is a desideratum it fills the demand. The commercial use of jute dates back less than a century, the first exports in noticeable quantity (about 18 tons) having been made, to England, in 1828. By 1850 the exports had reached 30,000 tons; in 1871, 310,000 tons. Now some 3,500,000 acres are cultivated in jute in India. Both high and low lands are employed

for this culture, although the larger part of the crop is produced upon the "churs" or lands of recent alluvial formation along the rivers In this country the "river bottoms" would be favorable for the culture, in localities of the South, where the requisite conditions of heat and moisture prevail.

Twelve to fifteen pounds of seed is the average quantity sown per acre, though Spon gives nearly double this amount. In India the yield is about 400 pounds of fibre per acre. Little or no cultivation is given the crop save thinning out where overcrowded. The plants mature in three months and the crop is harvested with a bill hook and sickle at the time when the flowers have begun to show and the seed has not yet appeared. If the plants are allowed to seed, the fibre will be stronger and heavier, but harsher. In some districts, after harvesting the stalks are stacked in the field until the leaves drop off, while in other localities stacking is not practised. The stalks are sorted as to length into three sizes, and made into bundles that one man can carry. The extraction of the fibre is accomplished by steeping the bundles in stagnant water, covering them with jungle plants, clods of earth or cow dung. When the setting is completed the ryots go into the water waist deep, and by thrashing the surface of the water with the stalks, assisting the loosening of the bark with the fingers, the fibre is separated from the wood. Afterward it is wrung out and hung upon lines to dry. It is next made into drums of 70 or 80 pounds. If for exportation, it is pressed into bales of 300 pounds or over. Little may be said regarding jute culture in this country. At the low prices which prevail for the imported jute, it is doubtful if it could be made a paying crop. The plant is adapted to cultivation in the United States and produces a superb fibre, but it would not be able to compete with India jute at 1½ to 2½ cents per pound. Jute is treated by processes similar to those employed in turning flax into linen. Special machines are used for the various processes, such as heckling, spreading, drawing, roving and spinning. Hand looms have long been used in India for weaving jute. Since 1857 a great number of jute mills have been fitted with modern textile machinery. There are now over 60 such mills in India, employing over 200,000 hands. The production of fibre is about 4,215,000,000 pounds annually. In 1914 the United States imported 242,711,237 pounds of jute and jute butts, valued at $12,273,422. Jute bags were imported to the value of $4,250,000, and other jute fabrics to the value of $38,000,000 in the same year. There are about 33 establishments manufacturing jute products in the United States. These employ 7,000 hands and turn out a product valued at $11,000,000 annually. Consult Special Report (No. 8) office of Fibre Investigation of Department of Agriculture; 'Dictionary of the Economic Products of India' and various Bulletins of the Royal Gardens, Kew, England. See CORDAGE; FIBRE; INDIA.

JUTES, or JUTS, one of the Low German tribes who share in the occupation and conquest of England in the 5th century A.D. They came from the European continent but from just what part of its western coast is not certain. It has been customary to identify their original habitat with that of modern Jutland. It is contended, however, by some investigators that the Jutes spoke quite a different tongue dialectically from that of the people of modern Jutland, which is Danish. An attempt has been made to identify the Jutes with the Frisians and to thus reconcile the apparently conflicting statements of Bede, who states that the invading tribes of England were Angles, Jutes and Saxons; and of Procopius who asserts that they were Angles, Saxons and Frisians. Modern research has attempted, with more or less satisfactory results, to identify the Jutes, with the roving Low German bands who, spreading over the North Sea and adjacent islands and British coast to the west, took possession of much of the south of England, parts of the Lowlands of Scotland, the Shetland, Orkney and Hebrides islands. The same investigation identifies them with Teutonic bands that landed, about the same time, on the Irish coast. Efforts have also been expended in attempting to prove the persistence of the Jute type in southern England and the Lowlands of Scotland to-day, as distinct from other English types, existing or supposed to still exist from the days of the Germanic and other tribal invasions, occupations and conquests. It has been claimed by investigators that the traditions of the settlement of Jutes around Canterbury in Kent, on the Isle of Wight and in South Hants are still sustained by the presence in these regions of physical types, in certain ways distinct from those of neighboring districts. Consult Ripley, W. Z., 'Races of Europe' (London 1913).

JUTLAND, the peninsular portion of Denmark (q.v.).

JUTLAND BANK, Battle of, the greatest naval battle in history, also known as the battle of the Skagerrak, was fought in the North Sea on 31 May–1 June 1916 between the British and German fleets. According to the German Admiralty, the High Sea Fleet was bent on "an enterprise directed northward" — probably to support Hindenburg in the Baltic. There is little reason to believe that it was the German intention to challenge the entire, overwhelming naval power of Britain. Admirals Von Scheer and Von Hipper encountered the Battle Cruiser Fleet under Admiral Beatty, who was steaming north to rejoin the Grand Fleet of Sir John Jellicoe. The battle opened at 3.30 P.M. and lasted throughout the night. Though German reports at first claimed the victory, the result failed to raise the blockade and only confirmed the Allied command of the sea. A remarkable exposé on the battle of Colonel Von Schroeder was published in the *New York American* on 15 Dec. 1918. See WAR, EUROPEAN — NAVAL OPERATIONS.

JUTURNA, Fountain of, a spring at the foot of the Palatine Hill, Rome, which tradition says was named by Jupiter after a water nymph with whom he was in love. The spring or fountain was just south of the celebrated temple of Castor and Pollux, where it is said that these two appeared, in 496 B.C., to announce the defeat of the Latins at the hands of the Romans at the battle of Lake Regillius. The spring, though neglected and partially filled up, is still active. (See CASTOR AND POLLUX; NYMPHS). Consult Hülsen-Carter, 'The Roman Forum' (Rome 1906); Macaulay, 'Lays of

Ancient Rome'; Virgil, 'Æneid, XII'; Wissowa, 'Religion und Kultur der Römer' (Munich 1912).

JUVARA, yoo-vä'ra, **Filippo**, Italian architect: b. Messina, 1685; d. Madrid, 1735. He was a pupil and follower of Carlo Fontana, but developed considerable individuality. In an age when ornamentation ran to the grotesque and delighted in the extravagance of Baroque, he led a reaction for more plainness and simplicity. Among the edifices planned by Juvara are a dozen or more in Turin, among them being the Superga church and the Palazzo Madonna; and the Royal Palace at Madrid constructed for Philip V (1734).

JUVENAL (DECIMUS JUNIUS JUVENALIS), a famous Roman satirist. The evidence for his life, while fairly abundant, is of so dubious and conflicting a character that it is impossible to reconstruct the poet's career with any certainty. It is probable, however, that he was born at Aquinum, about 55 A.D., and that he was known during the first half of his life, simply as an accomplished declaimer and rhetorician. After the accession of Trajan in 98, he began to publish satires in which, with extraordinary force and indignation, he described the conditions of life at Rome, for the most part as they existed during the reign of Domitian, 81–96. An inscription found at Aquinum records an offering to Ceres by a certain Junius Juvenalis (the stone was broken, so that the first name is lacking), tribune of the first cohort of Dalmatians *duumvir quinquennalis* of the town, and priest of the deified Vespasian. This man has been generally identified with the poet (cf. 'Sat.' 3, 319–320), but may be only a kinsman of his. There is a consistent tradition that he was banished for a number of years because of offense given to an imperial favorite, the actor Paris, but neither the time nor place can now be determined. He was apparently an intimate friend of Martial (who mentions him in three epigrams, VII, 24 and 91; XII, 18), though the two men were widely different in their outlook upon human life. The date of Juvenal's death is not known, but the fifth and last book of satires, comprising 13–16, was published in 128, and he may have lived seven or eight years thereafter.

In the hands of Juvenal, satire becomes almost a new literary type. Horace, who brought to perfection the method and manner of Lucilius, the first of the Roman satirists, says of his art ('Sat.' 1, 10, 9–14) that it aims at terseness, at a style that changes from grave to gay, that suggests now an orator who is a poet also, now a polished and witty talker who masks his strength. But Juvenal's passionate revolt against the hideousness of a time of which he could see only the dark side, gives to his verse one unchanging tone. For him satire is invective, biting, pitiless and unrestrained, the expression of a towering moral indignation. Such humor as there is is always grotesque or of the grimmest kind. This is true, at least, of the first nine poems, which alone are really satires upon the Roman life that he knew. The remaining seven (the sixteenth is, of course, a mere fragment) are rather moral essays of a general character. He is, however, singularly deficient in power to discriminate. Mere offenses against good taste are classed with atrocious crimes; "Orestes (unlike Nero) did not mix poison for any of his relatives; he never sang upon the stage; he did not write an epic upon the Fall of Troy" ('Sat.' 8, 219–221). Such passages (and they are numerous) have raised at times the question of Juvenal's sincerity. But this should not be doubted. He was, on the one hand, swayed by the intense and narrow prejudices of a Roman of the old school; on the other, his long rhetorical training had developed to the utmost an inborn capacity and love for epigrammatic phrase. The possession of this power, while it sometimes led him astray, is one of his just claims to greatness. No Roman writer lends himself more admirably to effective quotation; none can describe a scene with more graphic realism. See JUVENAL'S SATIRES.

Bibliography.— The best text is the Jahn-Bücheler (Berlin 1893). There are excellent editions by J. D. Lewis, with a translation (2d ed., New York 1882), J. E. B. Mayor (London, Vol. I, 4th ed., 1889; Vol. II, 3d ed., 1881); Pearson and Strong (Oxford 1892); L. Friedländer (Leipzig 1895); J. D. Duff (Cambridge 1900); H. L. Wilson (New York 1903). Dryden translated five of the satires. There is a spirited verse translation by Gifford (London 1817); and good prose translations by Strong and Leeper (New York 1882), and S. G. Owen (London 1903). Dr. Samuel Johnson's paraphrases of the third and tenth satires in his 'London' and 'The Vanity of Human Wishes' are deservedly as famous as the originals. Consult also Dürr, J., 'Das Leben Juvenals' (Ulm 1888); Martha, C., 'Les Moralistes sous l'Empire Romain' (Paris 1865); Boissier, G., 'La Religion .Romaine' (Paris 1884), and 'L'Opposition sous les Césars' (Paris 1892).

NELSON G. MCCREA,
Professor of Latin Language and Literature, Columbia University.

JUVENALIA (Latin, meaning youthful), the private scenic games which Nero established at Rome to celebrate his attaining his age of manhood (59 A.D.). About this time the Palatine games at the beginning of the year also began to be called Juvenalia, if indeed they had not been so designated earlier as emblematic of the youthful year. The most noted private actors took place in the Juvenalia, among them being Nero himself.

JUVENAL'S SATIRES. The 16 satires of the Roman poet Juvenal (about 55 to 135 A.D.) were the product of his maturer life. None of them was with certainty composed before the year 100 A.D. For the most part, they are poems of moderate length, seldom exceeding 300 lines. Several are much briefer.

The Satires deal with the social defects of the times, and cover a fairly extensive range of topics. The first satire gives the poet's excuse for writing. Everyone else is composing. Why should not he! Moreover, whoever contemplates the social degeneracy of the day must naturally feel impelled to write in arraignment of existing conditions and tendencies. "Indignation forces composition." The second satire deals with a phase of sexual perversion more characteristic of antiquity, probably, than of modern times. In the third, Juvenal deplores the fact that Rome is no longer an en-

durable place of residence for an honest man. Only he who will lie, cheat, steal, murder, can win advancement in the Rome of Juvenal's day. Foreigners,— especially Syrians and Greeks — have invaded the capital in such numbers that it is no longer Roman but Greek (non possum ferre, Quirites, Græcam urbem). Houses are so poorly constructed that they often fall in ruins. Rent and provisions are high. Conflagrations are common. The noise of traffic has become unbearable; while theft and assault are the order of the day. The fourth satire touches upon the degeneracy of the Senate. In the reign of Domitian, this body had so deteriorated in dignity, that Juvenal represents senators assembling in a council of state to discuss the fitting way of serving an unusually large turbot at the imperial table. The fifth satire deals with the trials and indignities of clients or parasites. A large class of dependents had sprung up in the empire, men often of respectable antecedents but now in reduced circumstances. These clients danced attendance on the great men of the day, and in return received a small daily dole of money and an occasional invitation to their patron's table. The studied discrimination of which they are made the object on such occasions is the special theme of the satire. The sixth satire deals with the license practised by a certain class of the women of the day. The seventh bewails the unfortunate lot of literary men. Poets, historians, orators, rhetoricians, teachers alike are all ill paid, neglected and unhappy. The eighth satire arraigns the pretensions of those who pride themselves on their descent. Virtue alone, says the poet, is true nobility. Noble birth should impose responsibilities, but the nobles of Juvenal's day go on the stage and appear as gladiators in the arena. The theme of the ninth satire is similar to that of the second. The tenth (probably the most famous of the whole collection) is on the vanity of human wishes,— the desire for power, for money, for office, for long life, for beauty. The emptiness of all these is illustrated by examples. Shall we then pray for nothing? Yes, "a sound mind in a sound body" (mens sana in corpore sano), a contempt for death, and a willingness to endure toil. The eleventh satire exalts the "simple life" and country joys. The twelfth is aimed at the legacy-hunter. The thirteenth returns to the general degeneracy of the times and pictures the torments of a guilty conscience. The fourteenth emphasizes the contagion of a bad example, especially in the home, and exhorts parents to be worthy of imitation by their children. The fifteenth aims to illustrate Egyptian barbarity by an account of an Egyptian custom. The sixteenth (a fragment) enumerates some of the advantages of the soldier's life and status.

Juvenal lacks the urbanity of Horace. Conscious of his own rectitude, he is unscathing in his denunciation of the faults of others. At times he almost deserves the name of scold. Yet his purpose was lofty and he not infrequently rises to great nobility of sentiment and expression. The three satires in which he descants on certain of the more odious forms of vice (2, 6, 9) probably give an entirely incorrect picture of the prevailing morality of the day.

The third and tenth satires have been imitated in Johnson's 'London' and 'Vanity of Human Wishes.' A recent translation is that by S. G. Owen (London 1903).

CHARLES E. BENNETT,
Professor of Latin, Cornell University.

JUVENCUS, Gaius Vetticus Aquilinus, an early Christian poet, generally supposed to have been a native of Spain: b. about 290; d. about 331. His style, which is excellent, and his poetical form, which is classical, show that he must have received an excellent education. He was a Spanish presbyter and it has been claimed for him that he was of noble family. The only work of his known to have survived to the present is his 'Historia Evangelica: Versus de Quattuor Evangelicis,' which is supposed to have been written about 330. In this he imitates the best of the Latin poets, with considerable show of originality. In this version the author seems to have made use of both the 'Jala' and the original Greek version. Consult Hatfield, 'A Study of Juvencus' (1890); Mantius, 'Geschichte der christlich-lateinischen Poesie' (Stuttgart 1891); Teuffel, 'Geschichte der römischen Literatur' (Leipzig 1913).

JUVENILE COURTS. See CHILDRENS COURTS.

JUVENILE FORMS, those forms assumed, in early growth by plants, which are supposed to be similar to the adult forms of an earlier stage in the development of the plant. See PLANTS; PLANTS, HYBRIDS IN; PLANTS, RECAPITULATION IN; PLANTS, STRUCTURE OF.

JUVENILE OFFENDERS. See CHILDREN, DELINQUENT.

JUVENILE WATER. See GROUND WATER.

JUVENTAS, the goddess of youth, in Roman mythology. Her shrine was in the temple of Jupiter, on the Capitol. All Roman young men, on coming of age, paid their respects at the shrine of Juventas, on whose altar they laid offerings. Juventas and the Greek goddess Hebe, which seem to have had much the same functions and attributes, and probably had the same primitive origin, became confounded in Rome early in the 3d century B.C., and the temple of Juventas, near the Circus Maximus, was dedicated to Hebe, with apparently the same functions and attributes as Juventas (about 218 B.C.). Consult Wissowa, 'Religion und Kultur der Römer' (Munich 1912).

JUXON, William, English prelate, archbishop of Canterbury: b. Chichester, Sussex, 1582; d. London, 4 June 1663. He was educated at Oxford, took orders and after holding church livings (in 1609 at Oxford, and then in 1614 at Somerton) in 1621 succeeded Laud as president of Saint John's College. In 1627 he was appointed vice-chancellor of the university, and about the same time chaplain in ordinary to Charles I, who gave him the deanery of Worcester, and then the bishopric of London (1633). He attended the king on the scaffold. His fidelity cost him his bishopric, but at the Restoration he was made archbishop of Canterbury. of

K

K the 11th letter in the English and other alphabets of the modern languages of western Europe.

The character is derived, through the Greek from the alphabet of the early Phœnicians, where its form is that of *K* reversed, ϗ. The *k* represents the sound produced when the back of the tongue is brought into contact with the palate and the breath expelled. The sound-value of *k* is the same in all languages; but *k* is not employed in the modern Latin languages save in spelling foreign words or names. Nor does it occur in Latin save as an abbreviation (K or Kal.) for Kalendæ, K for the name Cæso, or for Carthago, etc.

In English the *c* of the Latin orthography of words from the Greek is always retained, even when it represents the sound of *k*, for example, *sceptic*, pronounced *skeptic;* and we are beginning to pronounce *ceramic, keramic.* We even substitute *c* for *k* in Greek words and names, though in reading Greek we give to the *k* always its hard guttural sound; hence for us *Alkibiades* is (in sound) *alsibiades*, and even *Kimon* is *simon.*

The *k* in Greek names suffers a similar change in the modern Latin languages; but in German speech the true *k* sound and spelling in such names is retained: *Ankyra*, not *ansyra; Korkyra*, not *corsyra; Kephalos*, not *sephalos.*

In Anglo-Saxon and in Gaelic the *k* is always represented by *c.*

The guttural sound of *k* seems to have stood unchanged in ancient Greek and Latin, whether represented by that letter or by *c;* but in the modern languages derived from the Latin the *k* sound underwent great changes, becoming a sibilant equal to *s*, as "*sezar,*" for *Cæsar*, or being "palatized" into the sound *tsh*, for example, Gr. *kyriake*, Ger. *kirche*, Scotch *kirk*, Eng. *church;* to produce this change the middle of the tongue, instead of the back of it, is brought into contact with the palate; in French pronunciation the *k*-sound of *c* in Latin words, as *camera, carbo, carnalis*, is changed to *sh*, and the words are written *chambre, charbon, charnel.*

K AS A SYMBOL. It has numerous significations, according to the connection in which it is used. Thus, for instance, K in chemistry stands for kalium or potassium. In heraldry and titulary honors it stands for knight, as for example, K.B., Knight of the Bath; K.G. Knight of the Garter. In the expression O. K. the K stands for correct or right, in sense at least, whatever be the derivation of the expression itself. K2 is a sign sometimes used to represent Mount Godwin-Austen, while Ka, in Egyptian mythology, represents the spirit of the dead. See KA.

KA, the spirit of the dead, the second self, which formed a very important part of the religious belief of the Egyptians. Each Egyptian was thought to possess his own particular *Ka*, which constituted the spirit of his life in the future world where all the inhabitants, whether earth-born or heaven-born, possessed each his *Ka.* To this rule not even the gods were exempt, the Creator of the universe and of men being as much dependent upon "his second self" as earth-born mortals. Every human being, while on earth, according to Egyptian belief, possessed two spirit beings, the *Ka*, which remained in the future world, and the *Ba*, which accompanied the body on earth and deserted it at death. The *Ba* was thought to be the earthly being or soul of man; and the root form of the word and its signification are suggestively like the form and use of the Indo-European root word for being or to be. As the *Ba* was the essence of life in this world, so was the *Ka* believed to be the essence of life in the world to come. This is why its possession could not be dispensed with even by the gods of creation. The *Ba* and the *Ka* were, therefore, both used as the symbols of being or existence, each in its own sphere. The substantive or copulative verb to be, though lacking in many languages, is a very pronounced feature of the Indo-European tongues, the race-possessors of which had early highly developed the idea of the spirit or soul within the earthly body. The similarity between the root *be*, expressing existence, and the Egyptian *ba*, is very striking, and it becomes still more so when the comparison is made with the various forms of the root throughout all the languages of the Indo-European family. From the Sanskrit bhū it glides into bă and bĭ (as in Russian bĭt), everywhere retaining the primitive idea of existence. So strongly has this idea persisted that some branches of the family even to-day, as Spanish, for instance, have developed two verbs to express the English "to be." One of these expresses the idea of existence pure and simple and *unlimited*, except by the condition of earthly life. The second verb to be expresses a condition that is limited and dependent upon the idea of existence, but not forming an essential part of it. Thus, man is an animal (El hombre *es* un animal) expresses a condition of man's existence throughout life, or in other words, of his *being.* "The man is in his house" (El hombre *está* en casa) expresses only a temporary condition and one in no way essential to being. It is therefore expressed by the second Spanish verb to be (*estar*) which is purely locative in use and derivation. These two sentences bring out strongly, by contrast, the idea of life-long existence and accidental occupation or position. Man *exists* all his life

as an animal; but he *stands* (the original root sense of the verb) or is located in his house. In the second case there is none of the spiritual sense of existence, since the verb expresses simply location in time.

The Royal Ka.— The Egyptians carried this idea of relation of time to existence to a conclusion that legitimately followed their belief in the divine character of their sovereigns. They represented their king as possessing, while on earth, both a *Ba* and a *Ka*, ever present in his person. Being of earth, the sovereign must, while on earth, possess his *Ba*, or second earthly person; but being, at the same time, the heaven-born child and the representative upon earth of the divine power, and not having relinquished his heavenly or future-world estate, he necessarily also had to possess his *Ka*, without which he could not retain his future world connections. This endowing of their sovereigns by the Egyptians with the earthly and the heavenly "second self," the *Ba* and the *Ka*, throws a light on these two much-disputed terms. The *Ba* was the breath of earthly life; the *Ka* was the breath of heavenly or divine life; and the sovereign, forming the link between earth and heaven, between the temporal and the divine, could do so only by virtue of possessing the essential animating forces of both. Each dead person was euphemistically said to have "gone *to* his *Ka*," that is, to have died or "departed this life." But the sovereign, when he died, was picturesquely said to have gone *with* his *Ka*, that is, to have accompanied the *Ka* to the future world. This shows the popular Egyptian belief that the heavenly "second self" never for a moment deserted the heaven-born sovereign, either in the future world from which he had come, or while on his earthly mission, as the heaven-sent ruler of the people. When a mortal left this earth, be he sovereign, potentate, noble, priest or common laborer, mechanic or tradesman, "his *Ba* flew away, at death, as a bird," and the departed went on to take possession of his new "second self," or *Ka*. With the disappearance of this earthly life, sovereign, noble and commoner were alike in possessing but one spiritual self. But, for all that, they were not placed on an equality in the future life; for the king, being of divine origin, returned to the society of the gods from which he had come when he appeared upon earth. There his earthly rule was transformed into a spiritual one.

Apparently the Egyptians had the idea that the unity of all the *kas* constituted the vital forces, which they seem to have represented by the plural of *Ka*. If this interpretation is correct, then the *Ka* would seem to have been closely connected with the granting of life upon earth. Just as it constituted the essence of life in the world to come. The *Ka* seems to have been able to move about, at will, throughout the universe. It was believed to enter the statue of the deceased, to animate it, at times, and to receive the mortuary offerings, or the essence or spirit thereof, which were made in behalf of the deceased. On accompanying to earth the new-born royal infant and destined future sovereign, the *Ka* continued to be his guardian and protecting spirit throughout his earthly career. Thus, too, the gods, when they visited the earth, as they were believed to have done in the earlier days of Egyptian national life, came, each accompanied by his *Ka*.

The Guardian Ka.— The *Ka* seems also to have, in the popular belief, descended from the heavenly regions to become the guardian companion through life of certain favored beings who were neither gods nor sovereigns, though they would appear to have acquired god-like qualities. They seem to have been the forerunners of the saints in the more modern religions, to whom were accorded preferential places in the future world on account of their earthly virtues and divine accomplishments. The presence of the symbol of the *Ka* was expressive of protection or blessing in the case of the sovereign, a favor not granted to other mortals. Hence the symbol of the *Ka* seems to have acquired the general signification of good luck or divine favor, just as the swastika or cross of the rain gods was thought to be a potent sign of good fortune. It would seem, therefore, that though the *Ka* generally remained in the future world, it nevertheless had some influence in the affairs of terrestrial life, if not on all occasions, at least under special conditions. That the *Ka* was believed to have influence on earth would seem to be further indicated by the fact that it was customary, in Egypt, to erect "Ka Chapels." Khnemu-hetep, so a surviving record states, built a Ka chapel to the memory of his royal father and appointed to take charge of it a "priest of the double," endowing both priest and chapel richly with lands and servants and providing for regular stated offerings for all time to come. The symbol of the *Ka* was inscribed prominently on the standard of this same filial and pious sovereign, perhaps as a talesman, or as a symbol of his divine origin. The kings of Egypt possessed several names, one of which was known as their "Ka" or "banner" name. This signified that they were the representative on earth of Horus. It seems to have been customary in Egypt to pray to the "Ka" or soul of the king which was believed to take a special interest in the accomplishment of all that pertained to the work and glory of the sovereign. Una (one of the most trusted and capable of the "royal servants" of Pepi I) a noted soldier and administrator (about 3233 B.C.) states explicitly that he was able to work efficiently for the glory of his king and to perform the great and many duties confided to him "because he prayed unto the '*Kas*' of the king more than to any other god and, for this reason, everything happened as it had been commanded to happen by the double or *Ka* of the king." Every Egyptian sovereign prepared his own monumental tomb and provided for the perpetual performance, at stated periods, in his Ka chapel, of mortuary services supposed to be necessary to maintain the power and influence of the deceased in the future world, and perhaps even his spiritual existence. Nobles and people of wealth generally followed the example of the king, while similar services were performed for the deceased of humble rank by his direct descendants. Thus it was a great misfortune for an Egyptian, in the lower walks of life, to die without leaving a son behind him to perform for him these pious offices. The statue of a deceased sovereign or person of high rank was frequently placed in his tomb. On each such

statue were represented the characteristic symbols of the *Ka* and also the *Ka*-name of the deceased potentate.

Disagreement of Critics.— Among writers on Egypt there has been much confusion as to the meaning and place of the *Ba* and the *Ka* in Egyptian religion. This want of agreement still continues; and it is due to lack of complete documentary evidence on the subject; to inadequate study of the documents already acquired, to want of co-ordination in the work being done to elucidate the subject; and to an inability to comprehend the signification of the information already acquired and the relation of its parts to one another. This has led some writers to represent the *Ka* as being an earthly spirit and an inhabitant of the temporal body, under more or less the same terms and conditions as the *Ba*, the latter being treated as a sort of wandering spirit while the *Ka*, they regarded as more stationary and domesticated. This view of the relation of the *Ba* to the *Ka* has led to learned discussion which has failed to take into account that there is apparently no evidence to support the view that the *Ka* was in any way a spirit of living body except in the case of sovereigns and specially favored persons, as already indicated. On the most primitive tombstones of the 1st dynasty the *khu* bird is depicted between the arms of the *Ka*, indicating that the shining, glorious intelligence dwelt in the *Ka*. Already at this early date all funeral offerings seem to have been made to the *Ka* or in the name of the *Ka*, which was thought to possess all the bodily perceptions and power of enjoyment. It is this connection of the *Ka* with these temporal qualities, its supposed presence in the tomb and the personal interest it took in the sovereign or other favored person, probably, that have given rise to the belief that the *Ka* was one of two spirits possessed by every mortal while on earth.

Development of the Ka.— There is no Egyptian religion that covers the period from 7,000 to 9,000 or more years of the life of the Egyptian people. During most of this long period there was no one form of religion supreme or anything like to nearly supreme. The various beliefs were constantly changing, with the centuries. There was an ever-present tendency for certain more powerful gods to become still more powerful and to take to themselves the powers and attributes of other less fortunate deities who had lost out in the race of time. Local gods became lost in the more powerful state deity, much as the local Hindu gods were incarnate in Vishnu, who was represented as having had many reincarnations, each of which probably represented one of these local deities. The Egyptians seem to have incorporated into the victorious god the *Kas* of all the local or other deities displaced by him. This accounts for the fact that *Ra*, for instance, was represented as having 14 *Kas*. Some of the divine kings of Egypt seem to have had as many *Kas* as the deities they represented on earth. Thus Rameses II is represented as possessing 30 *Kas*. The later Egyptian belief, which was the result of an evolution of 7,000 years, seems to have held that the *Ka* was a god-like principle, the presence of the divine dwelling in and saving the soul. Thus it ultimately came very close to the Jewish conception of the Holy Ghost. There seems to be plenty of evidence to demonstrate that Jewish and Egyptian doctrines concerning the soul acted and reacted upon one another from the first years of the contact of the two nations until the decline of Egypt. The mystical and imaginative Egyptian doctrine of the *Ka* and its interest in the affairs of the individual together with its relation to the *Ba* exercised a strong influence on early Christian religious thought and the development of the religious dogma of the soul. John's description of the Holy Ghost might have been the late Egyptian definition of the *Ka* as the indwelling divine principle whose presence saved the soul. This is essentially the doctrine of the *logos* in its highest development. Both the *logos* and the *Ka* came ultimately to signify a saving, divine principle. From this to the conception of the *Ka* immortal principle or soul was but a step, which had been already taken in Egypt before Christianity had put in its appearance. See EGYPTIAN RELIGION AND SOCIOLOGY; SOUL; BOOK OF THE DEAD.

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JOHN HUBERT CORNYN.

KAAB IBN ZUHAIR, käb ĭbn zoo'hār, an Arabian poet contemporary with Mohammed, and thus flourished in the 7th century. He was the son of a poet of some note, Zuhair ibn Abi Sulman Rabia at Muzani. All the members of the family became converts to the preaching of Mohammed, except Kaab, who was finally outlawed on account of his hostility to the latter. Later on he became reconciled to the prophet, with whom he seems to have become a favorite. One of the most famous of Kaab's poems is an eulogy on Mohammed, entitled 'Bānat Su'dād,' which has been translated into German by Brockleman, and into Italian by Gabrieli.

KAABA, or CAABA, properly a quadrangular structure, but a name particularly applied to a celebrated temple at Mecca. According to Mussulman tradition, the first Kaaba was built by the angels on the model of the pavilion which surrounds the throne of the Most High; the second was built by Adam, with whom it was removed to the skies, where it still exists in a right line above the Kaaba of Mecca; the third was built by Seth, but perished in the deluge; the fourth, which now exists, was built by Abraham and Ishmael. The name is specially given to a small oratory in the temple in the centre of a large space surrounded by galleries. It is an irregular cube, 40 feet long, 33 feet in width and about 50 feet in height. This is the point toward which the prayers of all Mussulmans are directed. In a corner (the southeast) fixed at a height of five feet from the ground is the famous black stone, believed to be one of the precious stones of paradise, and to have been brought by the angel Gabriel to Abraham,

when he was constructing the Kaaba. At first, according to one version, of a dazzling whiteness, the Moslems say that it grieved and wept so long for the sins of the human race that it became gradually opaque, and at length absolutely black; or, in another version, that it has been blackened by the tears of pilgrims, shed for sin. It is an object of profound veneration to the pilgrims who resort to the sacred city. This inner Kaaba is surrounded with a veil of black silk, and is opened but three times a year, and none but the faithful are permitted to approach it. The temple of the Kaaba is older than the time of Mohammed, previous to whom it was the Arab pantheon, containing the nation's idols. The Prophet destroyed the idols, but suffered the most characteristic form of worship to remain—the tawaf, or sevenfold circuit of the sanctuary. In the Prophet's day the outer walls were covered by a veil of striped cloth. This gave way under the caliphate to a covering of figured brocade and the Khedive of Egypt still sends such a covering with each pilgrim caravan. A broad band on these coverings is embroidered with inscriptions from the Koran. The door as well as the posts and lintel is of gilt silver. Modern descriptions of the interior do not always tally, which difference is due to the difficulty of observation. It is well agreed, however, that little change has been made since the days of Ibn Jubair, who speaks of the upper parts of the walls as plated with silver and gilt, the roof veiled with silk and the floor and lower part of the walls covered with rich marbles. He also mentions windows of stained glass but modern travelers appear to have overlooked these. Thirteen silver lamps hung between the teak pillars. A silver-plated door opens on a stair leading to the roof. The caliph Mahdi expended lavishly on the decorations and in beautifying the place of prayer around "the Ancient House." He brought pillars from Egypt and Syria. The work was extended by his successors and repairs continued down to Turkish times.

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KAALUND, kä'lŭnd, **Hans Vilhelm,** Danish poet: b. Copenhagen, 1818; d. 1885. He studied painting and sculpture, and wrote poetry at the same time. But his success in the latter so far surpassed his achievements in the former that he decided in 1838 to make literature his life work. For 20 years, however, he published poems with just enough success to warrant his continuing with the prospect of ultimately achieving the success he so much desired and had so earnestly worked for. In 1858 a collection of his best poems 'Et Foraar' (spring) written to the date of publication, was received with warmer welcome than had been given to previous editions of his works. In 1875 he published a drama 'Fulvia'; and two years later, another volume of poems, 'En Eftervaar' ('A Second Spring'). Among his other works are 'Fabler og blandede Digte' ('Tales and Mixed Poems,' 1844), and 'Fabler for Börn' ('Stories for Children,' 1845). Consult Nielsen, 'Hans Vilhelm Kaalund' (1886).

KAALUND, Peter Erasmus Kristian, Danish philologist: b. Söllested (in Laaland), 1844. He made a special study of Northern philology, sagas and learning while at the university of Copenhagen. After graduation he continued studies of a similar nature. He gave special attention to the sagas of Iceland in 'Historisk-topografisk Beskrivelse af Island' (1877–82). His appointment as librarian of the Arnamagnæan Collection of Manuscripts (Copenhagen) gave him special facilities and incentive to continue his life work. His catalogue of this collection (1888–94) and his catalogue of the Icelandic manuscripts of the Royal Library, his edited sagas and his 'Palæografisk Atlas' (1903–07) have done much for the study of the wide field of Danish, Norwegian and Icelandic lore and manuscripts.

KAARTA, kär'tą, territory in Senegal, West Africa, having an area of about 21,000 square miles. The east is fertile and most of the country is fairly level. Population about 300,000 natives belonging to Soninkis and Bambaras. The capital, Kuniakari, has about 5,000 inhabitants. Nioro, in the north, a town of about like proportions is an important centre of trade. The original rulers of Kaarta within historical times were the Soninkis who were overcome by the Bambaras. In 1855 the country became a part of Segu and in 1891 it came under the control of the French.

KABALASSOU, kă-bą-läs'soo, the native name of a large armadillo, native of Brazil, which feeds upon carrion and termites. It is from three to five feet long from nose to end of tail.

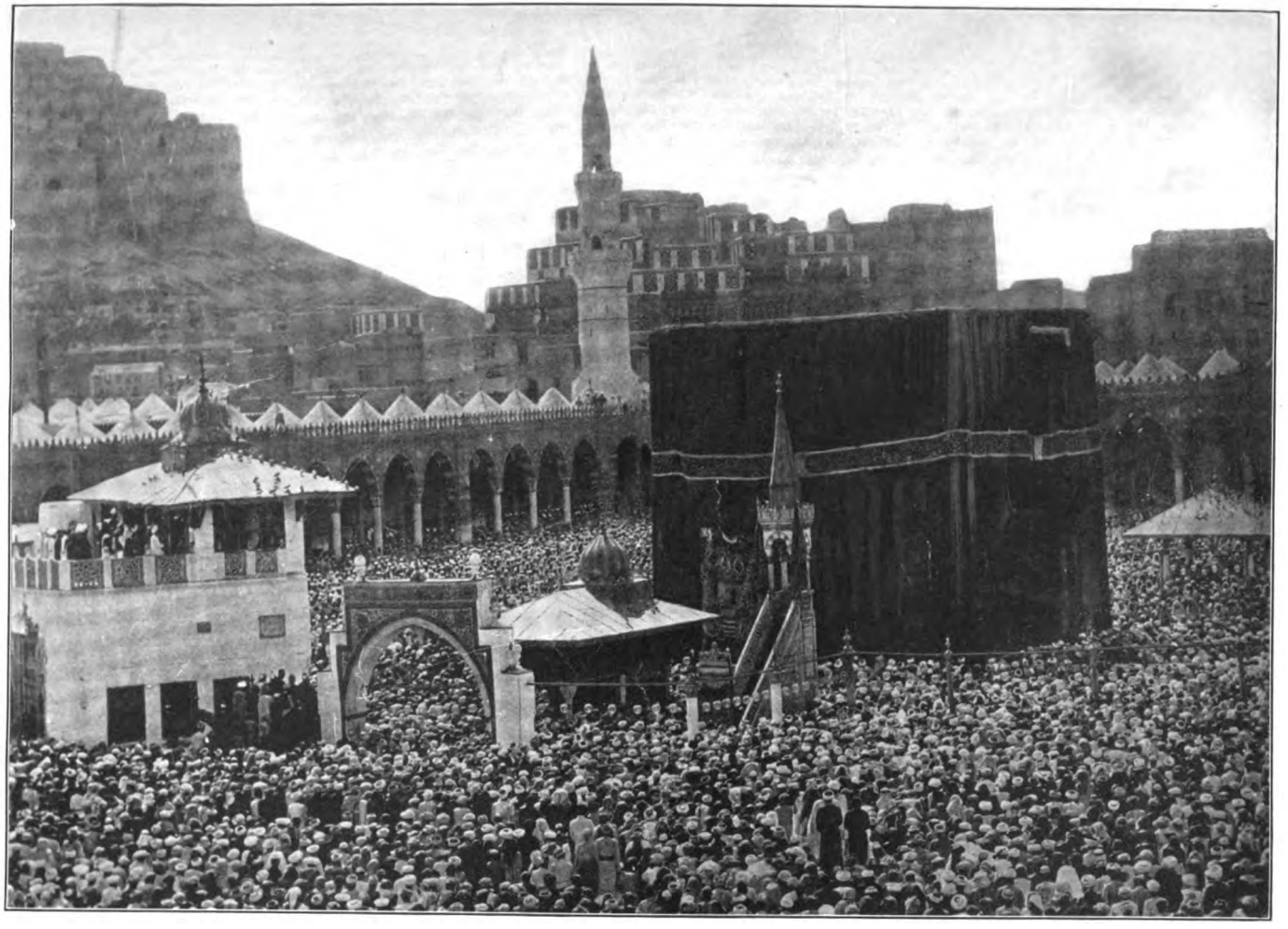
KABALE UND LIEBE, ką-bā'lĕ ŭnt lē'bĕ, one of the earliest dramas of Schiller published in 1784. It has been translated into English under the title of 'Intrigue and Love.'

KABARDS, or KABERTAI, ką-bĕr'tī, an independent Circassian family of about 30,000 people, most of whom are Mohammedans. They live in the central and western Caucasus on an upland broken plateau-like country at an elevation of some 5,000 feet above sea-level.

KABASSOU, ką-bäs'soo, **CABASSOU,** a native South American armadillo of the genus Kenurus noted for its curious movable plates and by the extra long first two digits. Like the Kabalassou (q.v.), the Kabassou is fond of burrowing at which it is quite adept.

KABBALA, kăb'ą-lą. See CABALA.

KABUL, ką-bool', or **CABOOL,** Afghanistan, capital of the country and of the province of Kabul, situated at the western extremity of a spacious plain, in an angle formed by the approach of two ranges of hills, and (with the exception of a suburb) on the right bank of the Kabul River, which is spanned, in or near the city, by several bridges. It is a place of great strategic strength, and stands at a height of about 6,900 feet above sea-level. It has a delightful summer climate, but the winter is severe. Since the eighties of last century great improvements have been effected in the city, and under the enlightened rule of Abd-ur-Rah-



PILGRIMS AROUND THE CAABA

man (died 1901) important industries were introduced and electrical powers developed under European tutelage. Good highways have also been constructed, and a local railway has been built. The mosques are spacious and commodious, and the town is an important centre of trade with India and central Asia. Kabul has had a stirring and eventful history. It fell to the arms of Tamerlane in 1394. It was captured by Nadir Shah in 1739, whose son, Ahmed Khan, founded the Durani dynasty. The city was taken by the British in 1839; was the scene of the capitulation of British forces in 1842, who, guaranteed safe conduct to the frontier, were brutally massacred, only one man out of a total of 16,000 soldiers and camp followers reaching safety. In retaliation the city was again occupied by British troops, and on evacuation partially destroyed by them. It afterward became the centre of a dynastic struggle between rival claimants to the throne of Afghanistan. In 1879 the British resident and his staff were massacred, and this was followed by General Robert's march on the city, the defeat of the Afghan forces at the battle of Charasaib, and occupation of the city for a twelve month. Pop. 180,000.

KABUL, a river in Afghanistan which rises in the Paghman Mountains in the northeast at an altitude of 8,400 feet above sea-level. It is about 300 miles in length at its junction with the Indies at Attock (in the Punjab). It supports considerable commerce carried on in small boats and rafts. On its shores are Kabul and Jelalabad.

KABYLES, ka-bīlz'. See BERBERS.

KACZKOWSKI, käch-kŏf'skē, **Zygmunt,** Polish historical writer and novelist: b. Bereznia (Galicia), 1826; d. 1896. He showed himself an ardent revolutionist in the outbreak of 1848. In 1861 he was imprisoned for treasonable writings, but was liberated on his agreeing to leave the country. Going to Paris he continued his literary work there for considerable time. After his return to Vienna he gave all his attention to literature, which was the gainer thereby. His extensive historical studies helped to give true local color, incident and truthfulness to his brilliant historical novels, among which are 'Bitwa o Horonzanken' (1852); 'Le tombeau de Nieczuii' (1858); and 'Le portefeuille de Nieczjua' (1883). His novels of modern life include 'The Strange Woman' ('Dziwozona,' 1855); 'Bajronista' (1855); 'Grandsons' ('Wnuczenta,' 1858); 'Anuncyata' (1858); 'Sodalis Marianus' (1858); and 'Le Comte Rak' (1862).

KADELBURG, kä'dĕl-burk, **Gustav,** Austrian actor and dramatist: b. Budapest, 1851. Making his début in Vienna in 1868, he went to Berlin three years later, where he remained 12 years, gaining in power and reputation; after which he returned to Vienna as stage manager of the Vcîks theatre only to make his way back to Berlin, where he found the life more congenial. He successfully toured the United States for two seasons. He was the author of many farces and comedies and collaborated in the writings of others and translated dramatic works from English into German. His works were published in 1899 under the title 'Dramatic Works of Franz von Schönthan und Gustav Kadelburg,' in four volumes.

KADEN, kä'dĕn, **Waldemar,** German writer: b. Dresden, 1838; d. 1907. He was a teacher by profession but gave all his spare time to folklore and literature. Among his published works are 'Wandertage in Italien' (1874); 'Unter den Olivenbäumen' (1880); 'Skizzen und Kulturbilder aus Italien' (1884); 'Pompejanische Novellen' (1882); 'Die Riviera' (1888); 'Italienische Gypsfiguren' (1891); 'Auf Capri' (1900); 'Volkstumliches aus Suditalien' (1896–1900); and numerous works dealing with folklore.

KADESH-BARNEA. The name of a place mentioned as a stopping-place for the Children of Israel on their way to Palestine. For 38 years it was the centre of the activities of the budding nation. Here the tabernacle was set up. Many fateful affairs occurred here, including the death of Miriam, the sister of Moses, the serious rebellion of Korah and the disobedience to divine command of Moses himself. From this place the spies were sent to make their survey of Palestine, and here their report was made. Then the march was resumed from this point. The exact site of Kadesh-Barnea has been the subject of much conjecture and considerable controversy. It was not until 1842 that anything like certitude was attained. Rev. John Rowland, then residing at Gaza, was directed to the spot by some Arabs. The adoption of the site, however, was met by the objection of Edward Robinson, Dean Stanley and others. Many scholars of equal authority defended Rowland's discovery. It remained for H. Clay Trumbull to establish the correctness of this site, which he did in 1883, publishing his results in what is considered "the most important work yet published on the subject," 'Kadesh-Barnea' (1884). It is located in the Badiet et-Tih, "the great expanse of treeless limestone plateau which intervenes between the valley of the Arabah, opposite Mount Hor on the east, and the coast of Philistia about Gaza on the West."

KADIAK, kăd-yăk'. See KODIAK.

KADIAK BEARS. See BEARS.

KADMONITES, people of the land of Kedem, the "Children of Kedem" (Bene Kedem). Jacob went to the land of Bene Kedem (Gen. xxix). The Kadmonites have, by some writers, been held to be the ancient Aramæans.

KAFFA, a tributary state of Abyssinia, toward the southern part of the country. It is mountainous for the most part and covered with thick forests in the higher regions. Capital, Araderacha; other important cities, Bonga and Jimma; area, about 5,000 square miles. No census of the country has ever been taken.

KAFFA, kăf'fā. See FEODOSIA.

KAFFRARIA, a part of the province of the Cape of Good Hope east of the Kei River. It became a part of Cape Colony in 1875 and now forms East Griqualand, Transkei, Pondoland and Tambuland, comprising a total area of about 22,000 square miles and having a population of about 850,000. Like most of the southern and western country of Africa which has had a considerable native population the principal industry is the raising of grain and cattle.

KAFIR-BREAD, kăf'ẽr-brĕd, the edible spongy pith of the stems and cones of any of several species of cycads (q.v.) growing in South Africa, especially *Encephalartos caffer.* This substance resembles sago in its farinaceous character.

KAFIR-CORN, Indian millet (*Sorghum vulgare*) extensively cultivated by the half-civilized negroes of south-central Africa. It is called kaoliang by the Chinese. See GRASSES; MILLET.

KAFIRISTAN, kä-fē-rĭs-tän' (Persian, "land of the infidels"), a region of central Asia northeast of Afghanistan, on the south slope of the Hindu Kush, and having as its southern boundary the Kabul River. Formerly the name was vaguely given to a much greater territory; it is now restricted to a country with an area of about 5,000 square miles, nominally under the government of the Amir of Afghanistan, but virtually belonging to an independent people. In the northern portion, which is mountainous, the surface is rugged and broken; in the south the land is mostly level or moderately undulating. Much of the soil has a high degree of fertility and is adapted, especially in the valleys, to the cultivation of fruits and cereals of various kinds. Grapes are largely produced, from which is made an excellent wine. They are said to be skilful workers in wood and metals, but their main pursuits are agriculture and stock-raising. In features and complexion, as well as in beliefs, manners and customs, they differ much from neighboring tribes. They appear to be of Aryan extraction and claim descent from soldiers of Alexander the Great. They are not without dissensions in the various tribal divisions in which they exist, but their isolation in a region of natural strength has enabled them to maintain a kind of political unity despite internal discords, as well as to preserve their independence against the invasions of other tribes. They have no literature, and in their language appear mingled traits of the Indo-Iranian dialects in their Iranian and Indian divisions. In religion they withstood Mohammedan influences until in 1895 they became subjects of Afghanistan, when Mohammedanism was imposed upon them outwardly; but they cling with fondness to their old superstitious beliefs. Consult Biddulph, 'Tribes of the Hindu Kush' (1880); Leitner, 'Kafiristan' (1881); McNair, 'A Visit to Kafiristan' (Proc. Royal Geog. Soc. 1884); Robertson, 'Kafirs of the Hindu Kush' (1896).

KAFIRS, kăf'erz, **KAFFIRS, KAFFRES,** or **CAFFRES** (from Arabic *Kafir,* infidel or unbeliever), the principal race inhabiting southeastern Africa, a branch of the great Bantu family. The name is now chiefly restricted to the tribes occupying the coast districts between Cape Colony and Delagoa Bay. They differ from the negroes in the shape of the head, being more like that of Europeans; in the high nose, frizzled hair and brown complexion, which becomes lighter in shade in the tribes of the more southern districts. They are a tall, muscular race, the average height being from 5 feet 9 inches to 5 feet 11 inches, and frugal and simple in their habits. Their chief occupation is raising and tending cattle, and hunting; they are also employed in the mining industry; garden and field work is mainly performed by women. They are of a peaceful disposition, but in times of war they display considerable bravery, tactical skill and dexterity in the handling of their assagais or spears, shields and clubs, as has been shown in their engagements with the British forces. There are several distinct branches or families of Kafirs, but the tribes which recent events have specially brought to the front are the Pondos, the Fingoes, the Zulus and the Swazi. Kafirs, especially of the Zulu tribe, are distributed in large numbers over Natal and Cape Colony, and have become to some extent civilized. There were frequent wars between them and the Dutch and British.

KAGA, kä'gą, or **KASHU,** province in the west of the Japanese island of Hondo, and forming a part of the ken of Ishikawa. It is a place of very considerable industry, which embraces the manufacture of silk yarns and goods, inlaid and other bronzes of very beautiful designs, Kaga porcelains and many other distinctly native products. Kanazawa, the capital of Kaga, which has a population of about 115,000, is situated five miles inland from its port, Takama, a place of considerable shipping activity.

KAGOSHIMA, kä'gō-shē'mą, Japan, a city in the island of Kiushiu, capital of Satsuma province and of the prefectural ken of the same name, on the northwest shore of Kagoshima Bay. The town it well built and is an important industrial centre with a considerable export trade. The celebrated Satsuma porcelain is manufactured in suburban Tanoura. Kagoshima was the feudal seat of the powerful Shimadzu daimios, and in 1863 was bombarded and destroyed by the British, owing to the murder of an Englishman; the reigning daimio refusing satisfaction. Here in 1877 Saigo (q.v.) set up the standard of rebellion, and here also he was overwhelmingly defeated a few months later. A great disaster took place on 12 Jan. 1914, when the volcano of Takurajima, situated on a small island directly facing the city, after being quiescent for 130 years, burst into flame, rendering 100,000 people homeless and compelling the inhabitants of Kagoshima temporarily to vacate the city. Pop. 75,907.

KAGU, kä'goo, the native name of the remarkable bird (*Rhinochetus jubatus*) peculiar to New Caledonia, where it was discovered only in 1860 and is now rapidly disappearing. It is the only species of a distinct family most nearly related to the sun-bitterns. The kagu is about the size of a domestic fowl, with short wings, rather long legs, a ralliform beak and a long crest. When the wings are folded, the colors are mottled gray, the wings and tail barred with a darker shade; but when they are spread the wings are seen to be barred and spotted with white and black arranged in a conspicuous pattern. The kagu is noteworthy for the extraordinary dances and antics which it performs.

KAGUAN, kä-goo-ăn'. See COLUGO.

KAHLENBERG, kä'lĕn-bẽrg, Louis, American chemist: b. Two Rivers, Wis., 1870. Educated at universities of Wisconsin and Leipzig, he became professor of physical chemistry in the former in 1897 and head of the chemical department 10 years later. He has been asso-

ciate editor of the *Journal of Physical Chemistry* and of the *Journal de Chimie Physique* and president of the Wisconsin Academy of Science, Arts and Letters, and vice-president of the American Electro-Chemical Society (on several occasions). Among his published works are 'Laboratory Exercises in General Chemistry'; 'Outlines of Chemistry'; 'Qualitative Chemical Analysis.'

KAHN, kän, **Gustave,** French poet, novelist and literary critic: b. Metz, 1859. During his school days he began contributing poems, short stories, sketches and reviews to the newspapers and journals, and this he continued actively from 1880 on. He took a trip to Africa of which he made good literary use; and on his return to France in 1886, he joined hands with Moréas and Paul Adam founding *Le Symboliste* and *La Vogue.* From this time on he took a very active part in the "Symbolistic" movement of which he became, in a sense, the most active leader. With Catulle Mendes and others he organized, in 1897, the "Matinées of poets," with the avowed object of encouraging the younger symbolistic writers to become still more symbolistic. These matinées were held successively at the Odéon, Antoine and Sarah Bernhardt theatres. Kahn has been largely interested in the *vers libre* movement, and he has been put forward as the inventor of this form of poetry which has been so much abused, especially in the United States; and which has consequently born such notoriously bad fruit. This claim, however, has been strenuously contested. There is something attractive about much of the symbolistic *vers libre* of Kahn; but the brood that he and his symbolistic followers have encouraged in the journals and reviews under their control or at their disposition, have proved scarcely worth the rearing, since most of them are compelled to limp through their literary life in a manner painful to themselves and to their readers. In recognition of his services to literature Kahn has been made an officer of the Legion of Honor. Among his published works are 'Les palais nomades' (1887); 'Chansons d'amant' (1891); 'Premiers poèmes' (1897); 'Le roi fou' (1895); 'Les fleurs de passion' (1900); 'L'Adultère sentimental' (1902); 'Symbolistes et décadents' (1903); 'Contes Hollandais' (1904); 'L'Esthétique de la rue' (1905); 'Boucher' (1909).

KAHN, Otto Hermann, American banker and promoter of opera: b. Mannheim, Germany, 1867. He came to the United States in 1893 to the banking firm of Speyer and Company, after five years in the Deutsche Bank branch in London and he joined Kuhn, Loeb and Company, five years later. There he soon became prominent in railroad and corporation finances. Of a strong musical disposition he has long taken a very prominent part in the encouragement of grand opera in this country. He has been chairman of the board of directors of both the Metropolitan and Century Opera companies, vice-president of the Chicago Grand Opera Company and one of the directors of the Boston Opera Company.

KAHOKA, kä-hō'kạ, Mo., city and county-seat of Clark County, on the Burlington route, 20 miles west of Keokuk, Iowa. It is an important shipping point for a large farming and stock-raising region and there are numerous grain elevators, besides flour-mills, cement-block factories, brick yards and fruit canning establishments. The city is governed by a mayor and council elected biennially and owns the water and electric-lighting plants. Pop. 1,758.

KAI-PING, kī-ping', China, town in the province of Pe-chi-li, 80 miles northeast of Tien-Tsin. It is the centre of a large coal field, over 11,000 persons being employed in the mines. The output in 1911–12 was 1,461,822 tons. A branch railroad connects Kai-ping with the Trans-Siberian Railway.

KAI-POMO, kī-pō'mō, a tribe of Athapascan Indians who formerly inhabited the Cahto Valley, Mendocino County, California. See KATO.

KAIANIAN, kī-ān'ī-ân (Persian *kai,* king), an ancient Iranian dynasty belonging to the early days of the history of the country. It bridges over the semi-historical, semi-traditional and semi-mythical period extending between the shadowy mythical age of Iran and the time when the country emerges into the light of formal history and loses itself in the later Archæmenian sovereigns. According to a Persian account, which is probably more mythical than historical, the dynastic Kaianians began with the establishment on the throne of Iran of Kai Kobad by the great legendary Persian hero, Rustam. All the succeeding members of this royal family bore the title "Kai" thus giving rise to their titular dynastic designation. The Kaianian rule came to an end with the conquest of Persia by Alexander the Great, in the 4th century B.C., after a little less than 700 years' duration, if the semi-legendary records on the case are to be accepted as authoritative. Throughout this long period certain names stand out so prominently that they have given their titles to families or dynasties; as seems to have been the case in early Biblical chronological records. Thus Kai Vishtasp is gravely recorded to have reigned 120 years; and other Kaianian sovereigns are credited with like unnatural age. (See PERSIA — HISTORY). Consult Dubeux, 'La Perse' (Paris 1881); Jackson, 'Zoroaster, the Prophet of Ancient Iran' (New York 1889).

KAIETUR (kä-ę-toor') **FALL,** a famous waterfall in British Guiana, on the Potaro River, a tributary of the Essequibo. It was discovered in 1870. Its total height is over 800 feet, and the sheer descent of the water 741 feet, the width of the hard rock over which it plunges being 370 feet. The water has worn a great cavern in the softer underlying layers, and against the dark background thus formed the whiteness of the spray is contrasted with magical effects. The scenery about this great waterfall enhances its beauty and grandeur.

KAIFUNG, kī-fŭng', or **K'AI-FENG-FU,** China, a walled city, capital of the province of Ho-nan, 450 miles southwest of Peking, and 11 miles distant from the Ho-ang-ho, or Yellow River. It was the capital city of China from 960 to 1129 and was then known as Pien-liang. The city has been visited 14 times by flood, 9 times by earthquake and 6 times by fire. Kaifung is a station on the new Hankow-Peking Railway. It has a large commercial trade with

the interior. A colony of Jews, established here about 1163 A.D., for hundreds of years maintained itself apart from the other inhabitants, but has now almost entirely lost its identity. The city was taken by assault by the insurgents in the Taiping rebellion of 1853. The inhabitants are mainly Mohammedan. Pop. about 200,000.

KAILAS, kī'läs, the highest summit of the Gangri Mountains in Tibet, between the sources of the Indus and the Brahmaputra, having an altitude of over 20,000 feet. It is a sacred mountain of the Hindus, who formerly regarded it as the abode of their gods.

KAILASA, kī-lä'sa, the best known of the rock-temples of Ellora. It stands not far from Aurangabad, completely separated by a passageway of considerable extent, from the mother rock from which it was cut probably about the 10th century A.D. The main chamber of the temple which is 244 by 137 feet is approached by a corridor or entrance hall 137 by 88 feet. The former is the sanctuary. Another room 100 by 56 feet forms the temple proper which rises in a magnificent dome, the summit of which is 90 feet above the floor and supported by four rows of handsome columns with sculptured elephants. Sculptured figures and painted designs cover the greater part of the whole vast edifice adding to the grotesque yet grand effect of the ensemble. Consult Ferguson and Burgess, 'Cone Temples of India' (London 1880).

KAILYARD SCHOOL, a popular name used to designate the Scotch writers who deal with Scotch peasant life. The use of the term is said to have had its origin in the motto used by Ian Maclaren for his 'Bonnie Brier-Bush,' "There grows a bonnie brier-bush in our Kailyard."

KAIN, kān, **John Joseph,** American Roman Catholic archbishop: b. Martinsburg, W. Va., 31 May 1841; d. Baltimore, 13 Oct. 1903. Educated at Saint Mary's Seminary he was ordained priest in 1860 and was for several years stationed at Harpers Ferry, W. Va. In 1875 he was consecrated bishop of Wheeling, and in 1893 he was appointed titular archbishop of Oxyrychia as coadjutor to Archbishop Kenrick of Saint Louis, succeeding to the archbishopric of Saint Louis on the death of Archbishop Kenrick in 1895. Owing to failing health, Bishop Glennon of Kansas City was made coadjutor in 1902, and succeeded him.

KAINITE, kī'nīt, **KAINIT** (Greek, *kainos,* new) a hydrous magnesium sulphate with potassium chloride. An impure kainite containing 12 per cent or over of potash is used extensively as a fertilizer. Kainite is a natural salt containing, when pure, 35.1 per cent of potassium sulphate, 24.2 per cent of magnesium sulphate, 18.9 per cent of magnesium chloride and 21.8 per cent of water of hydration. The fertilizing kainite is used for the production of potash and magnesium compounds. See FERTILIZERS.

KAINZ, kīnts, **Joseph,** Austrian actor: b. Wieselburg, Hungary, 1858; d. 1910. He was popular in Austria and Germany and played leading rôles at Vienna, Munich and Berlin, and visited the United States several times. Among his many rôles were Romeo, Mortimer in 'Maria Stuart' (Schiller); Ferdinand in 'Kabale und Liebe' (Schiller), and Alceste in 'Misanthrope' (Molière).

KAIPING, kī'ping', a city in the Liaotung peninsula, Manchuria, 30 miles southeast of Niuchwang. It is one of the towns captured by the Japanese in 1904 during the Russo-Japanese War. Kaiping is on the Port Arthur Railway.

KAIRA, kī'ra, a district and capital in northern Bombay, British India. The foundation of the city is supposed to date back to 1400 B.C., and it is definitely known to have existed as a flourishing commercial centre in the 5th century A.D. Pop. about 10,000.

KAIRWAN, kīr-wān', Tunis, a town 80 miles southeast of Tunis the capital, situated in a barren, sandy plain, and surrounded by a wall; founded about 670. It is connected by rail with Tunis and with the port of Susa, 30 miles distant. It ranks next to Tunis in population and trade, and is one of the sacred cities of Islam; it was formerly almost inaccessible to Christians. Under the administration of the French, by whom it was taken in 1881, many modern improvements have been made, among which not the least important is a good water supply. It has a variety of useful manufactures, including morocco, carpets, copper utensils, saltpeter, etc. Kairwan was the first seat of Saracenic empire in Barbary, and still has many fine relics of its ancient grandeur in the fragments of beautiful architecture which abound there, besides a number of interesting mosques. One of them, the Okbah mosque, rebuilt in 827, is a noble edifice, and is held in great veneration as one of the reputed four gates of Paradise. Pop. 25,000.

KAISARIEH, kī'sa-rē'ĕ, a town in the Vailayet of Angora, Asiatic Turkey. It is partially surrounded by the walls of an ancient fortification rampart, and most of its streets are narrow and crooked, thus betraying its antiquity. The town is the centre of extensive trade which reaches over a very considerable extent of local country. Hides, carpets, cloth, fruits and raisins are among its chief exports. It is a place of numerous bazars and mosques, one of the later of which dates back to 1238. Religious interests are strongly represented in Kaisarieh, the city being the seat of Greek and Roman Catholic bishops and of an Armenian archbishop. Thus it maintains the very ancient tradition that it occupies the site of Cæsarea (in Cappadocia). Pop. 50,000, half of whom are Turks.

KAISER, Isabelle, Swiss writer: b. Beckenried (on Lake Lucerne), 1866. With a command of French and German, she has written in both languages, though most of her writing has been done in French so successfully that she received the prize of the French Academy. Among her published French works are 'Ici-bas' (1888); 'Sous les étoiles' (1890); 'Des ailes' (1897); 'Le jardin clos' (1912), all poems; 'Cœur de femme' (1891); 'Sorcière' (1895); 'Héro' (1898); 'Notre père qui êtes aux cieux' (1899); 'Vive le roi!' (1903); 'L'Eclair dans la voile' (1907); 'Marcienne de Fluë' (1909), novels and stories. Her works, written in German, include 'Wenn die Sonne untergeht' (1901), a novel; 'Mein

Herz' (1908), poems; 'Die Friedensucherin' (1908), a romance; 'Der wandernde See' (1910), and 'Von ewiger Liebe' (1913).

KAISER, kī'zėr, a title, the German equivalent for emperor. The Romans added the name of Cæsar to their own kings in honor of the "divine Julius." Diocletian first made it a distinctive title, and in 395 A.D., on the division of the empire, the title was borne by both the Eastern and Western emperors. It lapsed in 476 A.D. with the last emperor, but was revived in 800 A.D. by Charlemagne, who was crowned emperor of the West at Rome in that year, after which the title was associated with the king of the Franks and after 962 with the Germans, whose kings became emperors of the Holy Roman Empire. The kings continued to be crowned by the Roman pontiffs at Rome, or at least in Italy, until 1530, when Charles V was crowned at Bologna. On the fall of Constantinople in 1453 the sultan assumed the title, but his claim was not recognized by the Holy Roman emperors until 1718. In 1721 the title of czar was assumed by Peter the Great of Russia. In 1806 the title of Holy Roman emperor was dropped by Francis II of Austria, who retained that of emperor of Austria. After the Franco-Prussian War of 1871 William I of Prussia assumed the title of German emperor, and this title is distinct from the older title of emperor of Germany. See CÆSARISM; CZAR; EMPEROR.

KAISER-FRANZENSBAD. See FRANZENSBAD.

KAISER WILHELM, or KIEL, CANAL. One of the important ship canals of the world, extending from the mouth of the Elbe, on the North Sea, to Kiel, on the Baltic, a distance of 61 miles. The military policy of Germany, however, has played a larger part in the purpose behind the digging of this canal than have the advantages to shipping. When Bismarck provoked the war with Denmark in 1864 it was generally considered that one of his main motives was the acquisition of such territory in Holstein as it would afford a suitable terminal for a canal connecting the Baltic with the North Sea and so permit German vessels, and more especially German war vessels, a means of passing from the one sea to the other without making the dangerous coastal voyage around Denmark, a distance of nearly 600 miles. Wilhelmshafen on the North Sea, and Kiel, on the Baltic, each an important naval station, have been the centers of gravity of the German naval war strategy, which has oscillated between the North Sea and the Baltic. The canal effects an inland passage between these two naval bases, so that in case of need the forces stationed at one base can quickly support those at the other, or the entire German naval power can be readily mobilized, at short notice, either in the Baltic or in the North Sea.

The digging of the canal was begun in June 1887 and completed, as first planned, in June 1895. The depth then was 29½ feet and the average width at the bottom was 72 feet, while the width at water level was 220 feet. The locks, as first constructed, were 492 feet long, 82 feet wide and 32 feet deep.

Then came the advent of the dreadnought, a war vessel of a size and draught which had not been contemplated at the time the canal was originally planned. This brought before the German strategists the need of having the canal widened and deepened, a work which was begun in 1907, and which is supposed to have deferred the great European War for some years.

In 1914 the alterations were completed, the canal having then cost upward of $55,000,000. The waterway is now 335 feet wide at water level, 144 feet wide at the bottom and 36 feet deep. The locks are 147½ feet wide and have an available length greater than the big locks on the Panama canal; 1,082½ feet. It is now possible for two of the largest ocean liners to pass each other in the canal and still leave 200 feet to spare between them. The official opening was celebrated 24 June 1914. Consult Wharton, A., 'Kiel: its Naval and Engineering Features,' (in the *Engineer*, London, Vol. 120, p. 20, 1915).

KAISER WILHELM DER GROSSE, a German converted liner of 14,350 tons which escaped from Bremerhaven at the beginning of the World War and, eluding the British squadrons, reached the South Atlantic. After two weeks of commerce raiding she was sunk by H.M.S. *Highflyer* off Cape Verde Islands on 27 Aug. 1914. See WAR, EUROPEAN — NAVAL OPERATIONS.

KAISER WILHELM LAND. See NEW GUINEA.

KAISERSLAUTERN, kī'zėrs-lau'tārn, a city of Bavarian Palatinate, Germany, about 40 miles west of Mannheim. It is the centre of spinning and weaving interests and possesses factories for the production of structural steel, car wheels, boiler engines, safes, sewing machines, furniture, clothing, shoes, bells, bricks, oils and blank-books. In the neighborhood are extensive quarries of fine stone and forests that supply building and cabinet lumber. The city is also the centre of iron works and railway shops. It possesses the usual schools, churches and public buildings of German and Austrian cities of its size. The town dates back to 1152 when Frederick Barbarossa built a magnificent palace there. In 1357 the free imperial city of Kaiserslautern became subject to the Palatinate. The French took it in 1801; Bavaria seized it in 1816; and it returned to the Palatinate in 1849, while still remaining an integral part of Bavaria. Pop. about 60,000.

KAJANUS, ką-yä'nŭs, **Robert**, Finnish composer and orchestral leader: b. Helsingfors, 1856. Graduating from the Leipzig Conservatory in 1880 and finishing his musical course in Paris and Dresden, he began the production of orchestral works which soon attracted attention. Returning to Helsingfors in 1886 he founded there a native orchestral association which was destined soon to achieve a more than national reputation. His appointment as director of music at the University of Helsingfors helped greatly the national musical movement that he was striving to encourage. Much of his music he has consciously and deliberately made national in subject and character. This covers a pretty wide range, including symphonic poems, rhapsodies, orchestral suites and numerous cantatas, songs and piano pieces.

KAKA, a large, slow-flying, brownish parrot (*Nestor meridionalis*) of New Zealand, which inhabits forests, where it goes about in

noisy flocks, and nests in hollows of trees. Its food is miscellaneous, but consists principally of nectarous flowers and of the grubs hiding under bark, which it tears away by its powerful hawk-like beak. A near relative is the Kea (q.v.), and other species on New Zealand, Norfolk and neighboring islands have become wholly extinct since the occupation of those islands.

KAKABEKA FALLS, a cataract of the Kaministiquia River, Ontario, Canada, 14 miles west of Port Arthur. The falls, which are noted for their picturesqueness, have a height of 130 feet, and their width is about 450 feet.

KAKAPO, the Maori name of a large, ground-keeping, owl-like parrot (*Strigops habroptilus*), which is now nearly extinct, owing to its inability to withstand the dogs, cats, rats, etc., introduced by civilization, in addition to which its flesh is good to eat. Its terrestrial habits have led to such a reduction of the wing-muscles that the keel has nearly disappeared from the sternum. Consult Hutton and Drummond, 'Animals of New Zealand' (1905).

KAKAR, a sportsman's name for a muntjac (q.v.).

KAKARALI, kăk-ą-răl'ī, a South American tree (*Lecythis ollaria*), whose timber is much used in British Guiana for piling and structures exposed to salt water, since it endures well, and resists the boring of shipworms and the attacks of barnacles. The Indians beat its bark until it separates into thin layers convenient for use.

KAKHYENS, kąk-hī'ĕnz, **Kahyen, Kakan,** the Burmese designation of certain, more or less primitive, tribes inhabiting the mountain districts of Arakan and northern Burma to the frontiers of Assam and Tibet. See CHINS.

KAKKE, kăk'kā', a Japanese disease believed to be identical with or very similar to the beriberi of India and the Malay peninsula. It is endemic in parts of Japan and is to be found occasionally all over the country. Sometimes it becomes epidemic. It is not known when the disease appeared in Japan or from whence it came. Kakke results, at times, in the loss of motive power from an affection of the lower extremities of the body which presents itself in the shape of swelling of the legs, numbness of the skin, cramps in the calf of the legs and, in the more extreme cases, dropsy and even heart failure. (See BERIBERI). Consult Anderson, 'Kakke' (in *The Transactions of the Asiatic Society of Japan,* Vol. VI, Yokohama 1878); Chamberlain, 'Things Japanese' (London 1891); Miura and Baelz, 'Beriberi oder Kakke' (in Mense's 'Handbuch der Tropenkrankheiten,' Leipzig 1905).

KALAAZAR FEBRILE, Tropical, a feverish disease prevalent in India and the east, generally from the west of northern Africa to southern China. It is accompanied by sores and pimples and is frequently fatal. It is also found among camels and they are believed to help propagate it. It is also known to be conveyed by bedbugs.

KALAFAT, kä'lą-făt', a fortified Rumanian town on the Danube, about 150 miles southwest of Bucharest with which it is connected by rail. At Kalafat the Russians lost over 10,000 men during the Russo-Turkish War of 1828-29. Pop. about 8,000.

KALAHARI (kä-lä-hä're) **DESERT,** a region of South Africa, extending from the Orange River to Lake Ngami, and from lon. 26° E. nearly to the west coast; situated in the Cape Province, Rhodesia, and German Southwest Africa. It occupies an elevation of 3,000 to 4,000 feet, and is called a desert because it contains little water; but besides grass and creeping plants there are large growths of bushes, and also trees; great herds of antelopes roam over its plains; and on the game thus provided, as well as on the vegetable products, particularly water-melons and large tubers, a great number of Bushmen and Bakalahari subsist. The Kalahari is remarkably flat, and is intersected in different parts by the beds of ancient rivers. The soil is in general a light-colored soft sand, but in the ancient river-beds there is a good deal of alluvium, which, when baked hard, is so retentive that in some cases pools formed by the rain contain water for several months.

Recent studies have brought to light very interesting facts regarding the limestone basins of this region — peculiar formations, in which can be traced the influence of higher animal life on the shape of the earth's surface. These crater-like depressions served as watering-places for the larger wild animals, and the crowding of great herds to these places, to drink and bathe, changed them from simple depressions to the walled basins which they now are. Elephants and other animals, by rolling in the mud and rubbing against the walls, gave to the hollows their depth — sometimes 20 to 30 feet — and a diameter commonly of several hundred yards. The water in these basins contain lime carbonate in solution and with the water drunk by the animals this carbonate disappeared, and the fresh spring-water absorbed another supply from the rock, thus deepening the depression. Scientists estimate that 600 to 800 years may have passed before the natural water-pools became basins. It is surmised that similar depressions in calcareous districts of the American prairies are due, in the same way, to the enormous herds of bisons which formerly inhabit them.

KALAKAUA (kăl-ą-kow'ą) **I, David,** king of Hawaii: b. 16 Nov. 1836; d. San Francisco, Cal., 30 Jan. 1891. He was the son of Kepaakea and Keohokalole, the niece of Kamehameha I, and was elected, 12 Feb. 1874, to succeed Lunalilo, and reigned till his death. In 1887 he was compelled to grant a new constitution, which very greatly restricted the royal authority.

KALAMATA, kä'lą-mä'tą, a seaport of Messenia, Greece, near the mouth of the Nedon. It is on the Gulf of Messenia, and is the centre of an extensive industrial activity and commerce in oranges, figs, mulberries, olives, silk and food-stuffs. It was in Kalamata that the first Grecian National Assembly was held (1821). Pop. about 16,000.

KALAMAZOO, kăl-ą-mă-zoo, Mich., city, railway centre and county-seat of Kalamazoo County; on the Kalamazoo River and on the Michigan Central, the Lake Shore and Michigan Southern, the Kalamazoo and South Haven, the Grand Rapids and Indiana and the Chicago, Kalamazoo and Saginaw railways; 143 miles west of Detroit, 60 miles southwest of Lansing

and 45 miles south of Grand Rapids. It is in a rich agricultural region, the chief products of which are celery, fruit and grains. Unlike the average city in western Michigan, Kalamazoo never was a lumber town. Located in the midst of a broad area of prairie land and oak openings, it was from the beginning an agricultural centre with fresh water, inland lakes in all directions, and with the Kalamazoo River flowing along its eastern portion. Few cities of the United States of a corresponding population show such a diversity of industrial corporations. There are over 276 factories employing about 10,000 persons, and representing an investment of $28,745,000. The chief manufactures of the city are paper, medicines, women's clothing, wagons and carriages, machinery, caskets, coffins, foundry products, windmills, furniture, stoves, corsets, shoes, automobiles and motor-trucks and regalia. The 13 paper mills employ more than 5,000 workers; the regalia and clothing factories, 1,000. The celery raising industry, by which Kalamazoo is perhaps best known, employs more than 700 skilled workmen, chiefly from Holland, and represents an annual output valued at nearly $3,000,000.

The four national and savings bank reported in 1916, $1,000,000 capital; $539,367 surplus; $9,804,867.62 loans, discounts and stocks; and $10,455,063.15 deposits. The total bank clearings were $38,650,359. The freight shipped and received in 1915 aggregated 876,432 tons. The total postal receipts were $461,044.26. Some of the prominent public institutions are the Kalamazoo College, opened in 1855 under the auspices of the Baptist Church; Nazareth Academy, Roman Catholic; Western State Normal School, Borgess and Bronson Hospitals, Tuberculosis Hospital, Saint Anthony's School for Feeble-Minded Children, Michigan Asylum for the Insane, Academy of Music, Fuller Theatre and the public library. Other prominent buildings are the Y. M. C. A., the City Hall, several fine churches and the high school, also the County Court House and the Masonic Temple. The government is vested in a mayor, public commissioners and a council of nine members, elected annually. The school board is chosen by popular election. Kalamazoo was settled in June 1829 by Titus Bronson of Connecticut. It was incorporated as a village in April 1843, and for many years enjoyed the distinction of being the largest village in the United States. It was made a city in April 1884. The waterworks and electric-plant are the property of the municipality. Pop. 48,200.

KALAMAZOO, a river which has its rise in the northwestern part of Hillsdale County, Mich., and flows west and northwest into Lake Michigan. From the source to the city of Kalamazoo it makes three southward curves, but from Kalamazoo the course is generally northwest. Its whole length is about 200 miles, only 50 of which are navigable. At the mouth is a good harbor for vessels of about 100 tons. The water-power is extensive, and has been of great value in the development of the southwestern part of Michigan. Allegan, Kalamazoo, Battle Creek and Marshall are on this river.

KALANGS, kạ-lăngz', one of the primitive races of Japan who have now become pretty nearly extinct partially through intermingling with and absorption into the Japanese people. Consult Meyer, 'Die Kalangs auf Java' (Leipzig 1877).

KALAPUYA, kā'lą-poo'yą, CALLAPOOYA, the family name of a group of Indians tribes in northwestern Oregon, principally in the Willamette River valley. They were of a decidedly peaceful character and consequently have not figured prominently in the history of the country. Never very numerous in historical times, the Kalapuya are represented by descendants who are for the most part American citizens who have adapted themselves to the ways of civilization. The Takmint, Mary's River, Santiam, and Yamhill on the Grande Ronde Reservation belong to this group. Consult Lewis, 'Tribes of the Columbia Valley and the Coast of Washington and Oregon' (Lancaster, Pa., 1906).

KALAT, KELAT, KHELAT, kā-lăt', capital of state of same name in Baluchistan. It is about 90 miles in a southerly direction from Quetta. It has grown rapidly since 1900 when it numbered less than 2,000 inhabitants. It was a walled town, but the population has lately spread beyond the walls. The residence of the Khan, a combined castle and fortress, is an imposing structure, but the town has nothing of the picturesque or prosperous about it. The British have retained a garrison at Kalat since 1854 and a resident agent with military escort since 1877. The town has become the centre of considerable local trade and is growing in importance as the centre of the caravan routes to Quetta, Khozdar, Gondava, Nushki and other centres of traffic. Kalat has a bazar which does an extensive local trade in the produce of the surrounding country and in native goods. Pop. about 18,000.

KALB, Johann, BARON DE. See DEKALB, JOHANN.

KALBECK, kăl'bĕk, Max ("JEREMIAS DEUTLICH"), German dramatist, poet and critic: b. Breslau, 1850. In 1880 he went to Vienna with the intention of making literature his life work. There he became a journalist, working on several of the chief newspapers of the capital and contributing lyrical and other poems to them and to magazines. He had already published a book of poems, 'Aus Natur und Leben' (1870), before he had thought of going to Vienna. But the favorable reception accorded this first work stirred his ambition to be a lyrical poet. His newspaper work, however, insensibly made him a critic ranking among the best in the capital, and this in its turn gave him an interest in the stage, which resulted in his becoming a successful dramatist and librettist. His work as a critic had been begun before he went to Vienna and the result was the publication of 'Neue Beiträge zur Biographie des Dichters Gün, ther' (1879). This was followed by numerous other critical articles of a higher order than is generally produced by even good newspaper critics. These embraced, among others, Wagner's 'Nibelungen'; 'Parsifal'; 'Wiener Opernabende' and 'Opernabende.' Among his original productions are 'Die Maienkönigen' (1888) and 'Das Stille Dorf' (1898). He translated or adapted to German numerous foreign dramas and works of librettists, among them being Massenet's

'Le Cid' and 'Werther'; Verdi's 'Otello,' and characteristic and popular productions of Smareglia, Smetana, Mascagni and Tschaikowsky. He also wrote an appreciative and critical biography of Brahms (1904).

KALCKREUTH, kälk'roit, **Stanislaus,** COUNT, German landscape painter: b. Kozmin, 1821; d. 1894. He began life as a soldier and served as lieutenant in the First Guards Regiment from 1840 to 1845. Resigning from the service he went to Berlin and there studied painting under some of the most famous German teachers. He possessed a certain poetical and mystical bent which became early evident in his paintings which were highly idealized. This gained him great popularity and won for him the appointment of art professor from William IV of Prussia (1859) and permission to organize the new art school, opened the following year in Weimar. He became director of this school, upon which he stamped his individuality for 16 years; during which he had considerable influence on the trend of art in Germany and Austria. But the day of Kalckreuth is already past, for his artificiality has become apparent to modern art critics. Among his best known and most popular paintings are 'Lac de Glaube' (1855); 'Canigai Valley' (1856); 'Rosenlaui Glacier' (1878), all three in the Berlin National Gallery; 'Lake in the Pyrenees' (1858), in the Königsberg Museum, and a notable series of landscapes in the Orangery near Potsdam.

KALE, or **BORECOLE,** a cruciferous plant (*Brassica oleracea,* var. *acephala*), differing from cabbage most strikingly in the nonformation of heads, the leaves being loose and free. It is largely cultivated as a pot-herb, especially in the South, where it generally withstands the winter. It is rather coarse in texture and flavor, but frosts modify both somewhat. In some sections it is extensively used for cattle-feeding. One of the largest producing regions is that in the vicinity of Norfolk, Va., which ships about 200,000 barrels to the markets each year. The varieties cultivated in America are nearly all treated as annuals, being grown from seed much like late cabbage. Some varieties, however, are perennial and may be propagated by cuttings, etc. For cultivation see CABBAGE.

KALEEGE, kạ-lēj, or **KALIJ, PHEASANTS,** a sportsmen's name in India for the pheasants of the genus *Genæus,* which range along the foot-hills of the Himalayan range and eastward to the China and down the Malay peninsula to Java. They are of medium size, richly dressed, with flattened crests, naked cheeks and spurs on the male. White is conspicuous in the plumage of most, so that they are sometimes called silver pheasants, especially the Chinese species (*G. nycthemerus*), frequently seen in parks and menageries. All are attractive as game birds, especially the Himalayan white-crested and black-crested.

KALEIDOSCOPE, kạ-lī'dō-skōp, an optical instrument invented by Sir David Brewster in 1817. It consists of a tube through the length of which pass two mirrors or reflecting planes, which are hinged together along one edge, and make with each other an angle of 180 degrees; while the one end is fitted up with an eye-glass, and the other is closed by two glasses, at a small distance from each other, between which are placed little fragments of glass or other colored objects. The eye looking into the tube perceives these objects multiplied, and the slightest moving of the instrument produces new figures.

KALENDS. See CALENDAR.

KALERGIS, kạ-lĕr'gēs, **Demetrius,** Greek soldier and statesman: b. on the island of Crete, 1803; d. 1867. Educated at Saint Petersburg, he studied medicine at Vienna and Paris, but left his course unfinished to take part in the Greek War of Independence (1821), during which he was taken prisoner by the Turks. He took part in the revolution of 1845 and was forced to exile himself, spending the next three years in London. After the residence of some time in Paris, he became Minister of War in the Mavrocordatos Ministry (1854–61), after which he was sent as Ambassador to Paris, where he played an important part in the negotiations which finally bestowed the throne of Greece on Prince George of Denmark.

KALEVALA. The Romantic movement, which in Germany began by the collection of folk-songs and fairy-tales, frequently led in the outlying countries to literary creations of national epics on the basis of actual epic songs. Thus arose in Finland the 'Kalevala,' systematically arranged by Dr. A. Lönnrot in 1835, and in 1849 totally rearranged and enlarged to 22,800 verses. Almqvist showed how Lönnrot had eclectically glued together actual variants, sometimes composing himself a few lines in order to bridge over discordant passages, more frequently rejecting verses which clashed with the general scheme he had in mind. However, if we disregard the unity of the Kalevala as a whole and the unimportant literary transitions, we have in Lönnrot's production an extremely valuable collection of Finnish heroic and magical songs, which throw a light upon the formation of a popular literature among the Finnish tribes. Some archæologists have assumed that in this 'Kalevala' we have a documentary record of a primitive state of society, but Comparetti, with far more justice, holds that it is not an invariable document of antiquity, but reflects, in ever changing form, the intellectual condition of the simple folk not far removed from the time when these songs were written down. Therefore it is not correct to speak of the 'Kalevala' as an epic, especially since the indeterminateness of images represented and the arbitrary personification of nature permit no set classification. The Finnish mythology is based on shamanistic polydaemonism and is not as highly developed as it was among the Romans, Assyrians or other cultured nations of antiquity, hence it yields no well-defined theogony. Similarly the hero is not always to be separated from the poet and magician, and his chief exploit consists in song competitions, as is the case with the shamanic wizard, or in wooing of the bride. The most cherished possession of such a hero is the sampo, a treasure which is hazily identified with a precious casket or a mill, but which Comparetti takes to be a Scandinavian word meaning "the commonwealth," and which

here has become a concrete object to be striven for. Just as indefinite is the Kalevala, the country of Kaleva, one of the heroes, though some authors take it to be "Finland," while the Pohjola, with which it is in conflict, has been supposed to represent the country of the North or the abode of the dead. But, while the Kalevala loses in importance as a national epic with a well-sustained plot, it justly maintains its place in popular literature, on account of the vivid imagery displayed by the popular poet.

The poem is now accessible to English readers in several translations: 'The Kalevala, the Epic Poem of Finland,' rendered into English by J. M. Crawford (2 vols., New York 1888); 'Kalevala, the Land of Heroes,' translated from the original Finnish by W. F. Kirby (London 1907, in 'Everyman's Library,' 2 vols.). Selections from the 'Kalevala' are given in 'Selections from the Kalevala,' translated from a German version by J. A. Porter (New York 1868); 'People of Finland in Archaic Times,' by J. C. Brown (London 1892); 'The Sampo, Hero Adventures from the Finnish Kalevala,' by James Baldwin (New York 1912). The best study of the poem is still that by Comparetti, 'The Traditional Poetry of the Finns,' translated by Isabella M. Anderson, with introduction by Andrew Lang (London 1898). The obligation of Longfellow's 'Hiawatha' to the 'Kalevala' was early pointed out by Th. C. Porter (in the *Mercersburg Review*, Vol. VIII, 1856).

LEO WIENER,
Professor of Slavic Languages and Literatures, Harvard University.

KALEVIPOEG, kạ-lā'vē-pĕg (son of Kalev), the chief Esthonian epic poem, based upon popular songs collected by Kreutzwald (1857–59). As the material used by the collector was destroyed, much discussion has resulted as to the position occupied by the poem among real national epics. Consult Kirby, 'Hero of Esthonia and Other Studies' (Vol. I, London 1895); Reinthal, 'Kalewipoeg, eine estniche Sage' (including the text of the poem with a German translation, Dorpal 1857–61).

KALGAN, kăl-găn' (Chinese, *Chang-Kia* K'ow), a walled city in the province of Pechili, China, about 125 miles northwest of Peking and at an elevation of 2,800 feet above sea-level. With a population of 80,000 or more, it is an important centre of local trade and the district centre of the overland tea commerce which is carried on by the use of immense caravans of camels. Its local trade extends into the Mongolian territory and to Shensi and Kansu to the west, and to Peking, with which it is connected by rail to the southeast.

KALHANA, kăl'hạ na, a noted Sanskrit writer, author of 'Rājataraginí,' the chronicle of the kings of Kashmir.

KALI, kā'lē, a Hindu goddess represented with four arms, wearing a necklace of skulls, and the hands of slaughtered giants round her waist as a girdle. Her eyebrows and breast appear streaming with the blood of monsters she has slain and devoured. One hand holds a sword, another a human head. She is the goddess of death and destruction, and goats and other animals are sacrificed on her altars.

KALIDASA, kä-lī-dä'sä, the greatest poet and dramatist of India and one of the great world poets. Native tradition assigns him to the 1st century B.C., but western scholars place him as late as the 6th century A.D. He was one of the nine "gems," or poets, at the court of King Vikramanditya, in Ujjain, but the fact that several monarchs were so named makes his date no more definite. The present tendency of scholars is to place him earlier than the 6th century but not so early as the traditional date. His most famous work is the drama 'Sakuntalā,' translated by Sir William Jones in 1789 and highly praised by Goethe. This translation helped to call the attention of the Occidental world to Sanskrit studies. Kalidasa wrote two other plays, the 'Vikramorvasī' and 'Mālavikā and Agnimitra.' His great lyrical masterpiece is the 'Megha-duta' (Cloud Messenger), in which a cloud is made the envoy of a lover to his absent sweetheart. Other poems are 'Ritu-samhāra,' a poem on the seasons; the 'Kumara-sambhava,' in 18 cantos, and the 'Raghuvamsa,' a eulogy of the great house of Rama, Prince of India. Many other works have also been attributed to him with various degrees of probability. His literary value has long been conceded. He excels in artistic form and his conceptions are full and rich. Editions and translations of Kalidasa have come forth in great number within recent years. Consult Schuyler, 'Bibliography of the Sanskrit Drama' (New York 1906); Foulker, 'Kalidasa: A Complete Collection of the Various Readings of the Madras Manuscripts' (4 vols., Madras 1904–07); Pansikar, 'Kumarasambhava,' with the commentary of Mallinath and Sitaram (5th ed., Bombay 1908); Cappeller, 'Sakuntala, kürzere Textform mit Anmerkungen' (Leipzig 1909); Hultzsch, 'Meghaduta' (London 1911). Of the English versions of the 'Sakuntala' the following are of importance: Jones, Sir William, 'Sacountala, or the Fatal Ring' (Calcutta 1789; London 1790; 1870); Monier-Williams, 'Sakuntala, or the Lost Ring' (6th ed., London 1890); Edgren, 'Shakuntala, or the Recovered Ring' (New York 1894). There is a fairly complete bibliography of Kalidasa and a discussion of his date in Macdonell, 'History of Sanskrit Literature' (London 1913). For details of Kalidasa's life and period, consult Beckh, 'Ein Beitrag zur Texthritik von Kalidasa's Meghaduta' (Berlin 1907); Bhao Daji, "On the Sanskrit Poet, Kalidasa," in *Journal* of the Bombay Branch of the Royal Asiatic Society (Bombay 1860); Huth, 'Das Zeitalter des Kalidasa' (Berlin 1892); Seviratne, 'Life of Kalidas' (Colombo 1901); Ray, 'Age of Kalidasa,' in *Journal* of the Asiatic Society of Bengal (Vol. IV, Calcutta 1908).

KALINGA, kä lĭng'gạ, a sub-province in northern Luzon and also a tribe inhabiting it. Part of the tribe has become partially civilized. Among the members of this part agriculture is practised and metal work is carried on successfully. They adhere to the Catholic faith and live much as the natives do on other parts of the island. Other members of the tribe live in the interior where they have little communication with the whites and are, therefore, but imperfectly known. They are reputed head-hunters and tree-dwellers. The Kalinga are closely

related linguistically and racially to the Tinguians of the Abra.

KALINITE, a natural potash alum, $K_2SO_4.Al_2(SO_4)_3.24\ H_2O$ occurring at various places in California and Nevada, but apparently not in sufficient amount to be a source of potash.

KALINJAR, or CALLINGER, kăl-lĭn-jar′, India, a town locally known as Tarahti and a hill fort in the United Provinces, division of Allahabad and district of Banda, 90 miles southwest of the town of Allahabad. It is a very ancient fort of Bundelkhand and its history reaches back through the three prehistoric periods of Hindu chronology; and its present name of Kalinjar is very ancient. The summit of the hill on which it stands is about 1,200 feet above the plains below. At the southeastern base of the hill is a decaying village, which was formerly a place of considerable importance and the capital of a rajahship. The whole summit of the hill, comprehending a plain five miles in circuit, is encompassed by an immense rampart of Mohammedan construction. It was surrendered to the British in 1812. There are a number of interesting caves, tombs, temples and statues here. Very early in history it is recorded as one of the sacred places of India and pilgrims came to the shrine from far-distant places. The hill was covered with temples long before the erection of the present fort; and in the ramparts of the latter are carved stones from the ancient buildings. It was captured by the Mohammedans toward the close of the 13th century and since that date it has been the scene of many conflicts.

KALISCH, kä′lĭsh, Isidor, American rabbi and author: b. Krotoschin, Prussia, 15 Nov. 1816; d. Newark, N. J., 11 Nov. 1886. Educated at the universities of Berlin, Breslau and Prague, on the outbreak of the revolution of 1848, he left Germany and after a brief stay in London came to New York in 1849. For some years he officiated as rabbi in Cleveland, Cincinnati, Milwaukee, Indianapolis, Detroit and Leavenworth, Kan. In 1868 he established a school in New York, which did not succeed. In 1870 he was called to Newark, N. J., as rabbi, and two years later to Nashville, Tenn. In 1875 he returned to Newark, where he devoted himself until his death mainly to literary work. He was a versatile author and his works cover a wide field, from a volume of German poems and a translation of Lessing's 'Nathan the Wise' to a decipherment of a Phœnician inscription found near Sidon, a sketch of the 'Sefer Yetsira,' a Kabbalistic work. He took an active part in the American Jewish reform movement and was a frequent contributor to the Jewish press.

KALISH, kä′lĭsh, a part of Russian Poland, occupying the most western section of the country, which is quite flat and watered by the Prosna and the Warta. Agriculture is the chief occupation of the inhabitants and the land, which is fertile, is generally fairly well cultivated. Little attention has been paid to agriculture. Area 4,377 square miles; population over 1,300,000, principally Poles. The capital is Kalish, which is in the valley of the Prosna, not far from the Prussian frontier. It is noted for its annual fairs. Among its industries are milling, weaving, distilling, sugar refining and tobacco raising. It also produces excellent leathers and woolens. Pop. 55,000, mostly Poles. Kalish, which was occupied by the Germans in 1914, was the scene of considerable severe fighting.

KALISPEL, or PEND D' OREILLE, păn dō′ rā′y′ a Salishan tribe formerly living in Idaho and Washington about Pend d' Oreille lake and river. When they became known to the whites they had already attained to considerable advancement along the lines of civilization. This was largely increased through contact with the Jesuit missions which began to be established among them shortly before the middle of the 19th century. A few are still in Washington, but most of the tribe live upon the Flathead Reservation in Montana. Pop. about 600.

KALISPELL, county-seat of Flathead County, Montana. It is on Flathead Lake and the Great Northern Railroad in a region of notable scenic beauty. Boulevards constructed at the expense of the city connect it with the Glacier National Park, some 37 miles distant. Farming, mining, lumbering and horticulture constitute the chief activities of the town and county. Pop. 6,000.

KALIUM, another name for the metal potassium, whence its symbol K is derived.

KALIYUGA, kä′lē-yōō′gą (Sanskrit word meaning age of strife), the fourth and last of the Hindu ages contained in a mahayuga or great yuga. According to the Hindu belief each succeeding age marked the increased moral and physical degeneration of all created things. Naturally, therefore, the kaliyuga being the last of the ages of this constant degeneration, is the worst. It is believed to have begun in 3102 B.C. According to the followers of the Tantras, the Kaliyuga is the age of Kali, the goddess of epidemics and diseases of all kinds and more especially of cholera.

KALK, kälk, town on the Rhine, in the Rhine provinces, Prussia, across the river from Cologne. It is the scene of a large annual pilgrimage. Since 1910 it has formed a part of the incorporated city of Cologne with which it is connected by a fine bridge. It formed a part of Deutz until 1881 when it became a separate corporation.

KALKAR, or CALCAR, käl′kär, **Jan Stephan von,** German painter: b. Kalcar, Cleves, 1499; d. Naples, 1550. He eloped to Venice with the daughter of an inn-keeper or Dordrecht (1536) and there became a pupil of Titian. Sometime later he went to Naples, where he continued to reside and to paint excellent portraits whose coloring were, at their best, little inferior to the best done by Titian. Quite a number of his works have survived and bear testimony to the high esteem in which he was held by his fellow painters in his own day and in succeeding generations.

KALKAS, käl′kąz, a people who at one time formed a section of the eastern Mongols, but who now dwell in northeastern Mongolia. They are nomadic in habits and typical of the nomadic inhabitants of the steppes. They are supposed to number about a quarter of a mil-

lion; but no definite census has been taken of them. Consult Haddon, 'The Races of Man and their Distribution' (London 1910).

KÁLLAY, kŏl'lī, **Benjamin von,** Austrian statesman: b. 1839; d. 1903. He was Consul-General at Belgrade (1869–75). In 1879 he became departmental chief in the Foreign Ministry, and in 1882 Minister of Finance. In this connection it fell to his lot to have charge of the reconstruction of Bosnia and Herzegovinia which had been recently occupied. This latter office he held until his death; and in the administration of it he showed much foresight and constructive ability. Among his numerous published works is a good 'History of the Serbs' (1877).

KALLINIKOV, kä-lĭn'ĭ-kôf', **Wassili Sergeivich,** Russian musician: b. Voina, Orlov, 1866; d. Yalta, 1901. Graduating from the Philharmonic Society Music School at Moscow in 1892, he conducted the Italian opera there the following year. He also became active as a composer, but consumption forced him to the Crimea, where the disease finally took him off at the early age of 35; but not before he had shown signs of becoming one of the greatest of Russian composers. His work includes symphonies, symphonic poems, intermezzi, orchestral suites, songs and quartet and piano music.

KALMAR, käl'mär, or **CALMAR,** Sweden, city, the capital of Kalmar Län (county), on Kalmar Sound, at a place where the distance to the island of Oland is not more than five miles. Kalmar is about 190 miles, in direct line, southwest of Stockholm. A part of the city is on the mainland and a part on two small islands. The town, which was formerly strongly fortified, though the fortifications are now in great part leveled, has a good harbor, a handsome cathedral, and a fine castle dating partly from the 12th century, in which, on 20 July 1397, the "Union of Kalmar" was signed, which settled the succession to the kingdoms of Sweden, Denmark and Norway upon Margaret of Denmark and her heirs. The commerce of the town is considerable, and it has manufactures of matches, chicory and tobacco, paper and some shipbuilding. Pop. 15,796.

KALMIA. See MOUNTAIN-LAUREL.

KALMUCKS, a nomadic, warlike Mongol race, inhabiting parts of the Chinese Empire, Siberia and European Russia. They have been great warriors from very early times, fought many bloody battles with the Tartars, with the Chinese and among themselves, and made predatory expeditions as far west as Asia Minor. They are intrepid soldiers, splendid horsemen, and troops of them are attached to almost every Cossack regiment. Physically the Kalmucks are small of stature. They number altogether perhaps 700,000.

KALNOKY, käl'nō-kē, **Gustav,** COUNT: b. Lettowitz, Moravia, 1832; d. 1898. At the age of 22 he entered the diplomatic service and was successively at Munich, Berlin, London, Rome and Copenhagen. Finally in 1880 he became Ambassador at Saint Petersburg, and the following year Minister of Foreign Affairs for Austria-Hungary, a post he held until 1895 when he became life member of the upper house. He bent all his energies to strengthening the friendly relations of his country with Russia and Italy, the latter of which he was instrumental in bringing into the Triple Alliance (Austria, Germany and Italy).

KALOCSA, kŏ'-lō-chŏ, a Hungarian grand commone near the Danube and 100 miles south of Budapest, with which it is connected by rail. Population about 12,000, principally Magyars. Fishing and cattle-raising are the principal industries of the inhabitants, the fishermen plying their trade in the waters of the Danube. The town has the usual buildings of a place of its size, among them being a handsome cathedral.

KALONG. See FLYING-FOX.

KALP, kălp, **Charlotte von,** a German literary woman: b. 1761; d. 1843. She was a great friend of Schiller whom she first met at Mannheim in 1784. Three years later she was instrumental in having him come to Weimar, which he and Goethe were destined to make one of the most famous literary centres of Europe. Schiller wanted to marry her, but she refused him. She was also a close friend of Jean Paul Richter, who portrays her as Linda in 'Titian.' Later in life she met with misfortunes which were made all the more unbearable on account of complete blindness. She finally found a protector in the Princess Marianne in Berlin. She left a novel, 'Cornelia,' which was published by her daughter Edda in 1851, eight years after her death. This is believed to be, in part, an autobiography. Consult Boy-Ed, 'Charlotte von Kalb' (Jena 1912); Klarmann, 'Geschichte der Familie von Kalb auf Kalbsrieth' (Erlangen 1902); Köpke, 'Charlotte von Kalb' (Berlin 1852).

KALPA, in Hindu chronology, a day, or a day and night of Brahma, or a period of 4,320,000 or 8,640,000 solar-sidereal years. A great kalpa comprises the life of Brahma.

KALPA SUTRA, kăl'pă sōō'tră (Sanskrit ritual manual), the Sanskrit work treating of the ceremonial governing the performance of Vedic sacrifice. It is also the name of the most sacred of all the Jainas religious works. This work, which was written by Bhadra Bahu in the 7th century A.D. is still held in the greatest reverence. Consult Jacobi, 'The Kalpa-Sutra of Bhadra bahu' (Leipzig 1879); Macdonell, 'History of Sanskrit Literature' (London 1913); Stevenson, 'The Kalpa-Sutra and Nava Tava' (London 1848).

KALPI, kăl'pē, or **CALPEE,** British India, a town in Jalaun district, United Provinces, on the right bank of the Jumna, about 45 miles south-southwest of Cawnpore. The original town stood near the river on an elevated site, but repeated Mahratta incursions induced the inhabitants to remove it to its present position among extensive ravines, where there is a small fort, which commands the navigation of the Jumna. After a long period of decay it is again reviving, and it carries on a considerable trade, principally in cotton, and is noted for its manufactures of paper and refined sugar, the latter said to be the finest in the world, but too high-priced to be in general demand. During the Sepoy mutiny Kalpi became a principal rendezvous of the revolted Gwalior contingent, which was signally de-

feated, first by Sir Colin Campbell, in the vicinity of Cawnpore, on which it had previously made an unsuccessful attack, and afterward at Kalpi itself by Sir Hugh Rose, 26 May 1858.

KALSOMINE, or **CALCIMINE** (Latin, *calx,* lime), a name given to the more common preparation used to whiten or otherwise finish the walls and ceiling of a house. The usual composition of kalsomine is zinc white and glue sizing mixed with water.

KALTAG, kăl-tăg', an unimportant Alaskan Indian village on the Yukon River where it forms the east end of the Kaltag-Unalaklik portage on the land route to Nome and the Seward Peninsula by way of the Yukon Valley.

KALTENBRUNNER, Karl Adam, kăl'tĕn-brun'nĕr, an Austrian dialect poet: b. Enns, 1804; d. 1867. In addition to his dialect poems, which are still popular in Austria and Germany, he wrote a successful drama and considerable formal poems much inferior to his dialect writings. Consult Wihan, Josef, 'Karl Adam Kaltenbrunner als Mundartlicher Dichter' (Linz 1904).

KALUGA, ka-lōō'ga, a government of Great Russia, situated between the governments of Moscow, Tula, Orel and Smolensk. For the most part the country is flat and inclined to be sandy; for this reason the chief product is hemp, though there is also considerable agriculture along other lines. Vast extents of primeval forests which cover many parts of the country have as yet been exploited but comparatively little. Mining is being carried on to some considerable extent, especially in iron and copper ores. Of late years the manufacturing interests of the country have expanded and broadened in variety. They include the making of paper, matches, leather goods, iron products, leather, linseed oil and furniture. The yearly increasing commerce of Kaluga is carried on principally by waterways, the chief of which is the Oka River which traverses the country for over 200 miles. The capital of the district is Kaluga, a commercial centre of about 50,000. Area of government of Kaluga 11,942 miles. Pop. 1,500,000.

KAMA, kä'mä, the largest tributary of the Volga, rises in the Ural Mountains, on the eastern frontiers of the government of Vyatka, in eastern Russia; flows first north, then northeast into the government of Perm, then circuitously south-southeast to the town of Perm, then southwest into the government of Kasan, and about 40 miles below the town of that name, after a course of about 1,200 miles, joins the left bank of the Volga, almost doubling its volume. It is navigable almost throughout its whole course, and a canal connecting it with a tributary of the Dwina, gives water communication between the Caspian Sea and the Arctic Ocean.

KAMA, or **KÂMADĪVA,** in Hindu mythology, the god of love and marriage. The accounts of his origin vary in the sacred writings of India. According to one authority he sprang from Brahma's heart. His wife is Rati or "Pleasure."

KAMAKURA, kä-mä-koo'rä, Japan, village, about 11 miles south of Yokohama. It is said to have been founded in the 7th century. From about 1190 for 400 years it was the political centre of Japan, the residence of many of the shoguns and frequently the battle-ground for supremacy and power. Since the adoption of Tokio as the capital it has lost its political importance; but it is still much visited on account of its beautiful surroundings, with many interesting relics of antiquity. See DAIBUTSU.

KAMAL-UD-DIN, Isma'il Isfahani, kä'mäl-ud-dēn ēs'mą-ēl ēs'fą-hä'nē, a Persian poet active during the first half of the 13th century; d. 1237. He was born at Ispahan, but the date of his birth is uncertain. His father, Jamal-ud-din Abdur Razzak, was also a poet of some considerable reputation. After enjoying to the full the pleasures of the world for a time, he finally turned his back on his wealth and high family connections, assumed the garb of a Sufi and took up his abode in a hut on the outskirts of Ispahan. There he was finally tortured to death when the city fell into the hands of Uktai Khan, son of Genghis Khan. His most famous work is 'Dīwān' a collection of poems, chiefly in praise of his patrons. He was noted for his beautiful love poems. Consult Browne, 'Literary History of Persia' (New York 1906); Gray and Mumford, 'One Hundred Love Songs of Kamal-ud-Din of Ispahan' (New York 1904).

KAMALA, a drug known, under various names, to Indian and Arab physicians, as a specific against the tapeworm. It occurs as a brick-red powder, adherent to the fruit of the euphorbiaceous plant *Mallotus philippinensis,* formed by minute roundish, semi-transparent granules, mixed with stellate hairs. The active principle of the powder lies in the 80 per cent of resin it contains, which also supplies the coloring matter, called rottlerin, used as silk dye.

KAMBALU, kăm-bă'lōō (meaning in Mongol, "the Khan's City," *Kanbaligh*), the capital of China during the Mongol dynasty founded by Kublai Khan. The city was captured by Genghis Khan in 1215, and 51 years later his son, Kublai, made it his capital; and it continued to be the seat of Mongol government for 108 years until Hung-wu finally succeeded in expelling the Mongols from the "Tartar City," which later came to form a part of Peking. Marco Polo, who visited it in the 13th century, has left an interesting description of it. Consult Marco Polo, 'Travels' (New York 1904); Yule, Henry, 'Cathay and the Way Thither' (Hakluyt Society, London 1866). The city is also variouslv known as Kambaluc, Kanbalu, Cámbalu and Cambálech.

KAMBODJA, kăm-bō'ja, a Burmese tree (*Plumeria acutifolia*) related to the oleander, which is commonly used as a shade-tree in the villages of that country.

KAMCHATKA, kăm-chăt'kä, or **KAMTCHATKA,** Siberia, a large peninsula of the Russian Empire, situated between the 50th and 60th parallels of latitude, 850 miles long from north to south, and of irregular breadth, the maximum being about 250 miles. It has an area of 104,260 square miles. The coasts are dangerous of approach on account of outlying reefs. A lofty range of volcanic mountains traverses the country in a southwesterly direc-

tion, with many peaks between 7,000 and 17,000 feet high. The snow line, in lat. 56° 40′, is at an elevation of 5,260 feet. Dittmar, a Russian traveler, devoted three years to the exploration of the geology of Kamchatka. He traced five successive formations, and found 17 volcanoes in active operation. Numerous rivers have their rise in the heights. The Kamchatka, with its affluent the Yelovka, is navigable for 150 miles. The most fertile portion of the peninsula for agricultural purposes lies along the valley of this river. The Russian settlers here raise oats, barley, rye, potatoes and garden vegetables, but the rest of the country is little adapted for culture. The climate is very severe; the winter lasts nine months, and frost is common at all seasons. The mean annual temperature at Petropavlovsk on the east coast is 28.5°, while at Tigil on the west is 43°. The average temperature of summer at the former place is 55.5°, and that of winter 19°, but the thermometer has been known to fall as low as 25°. Earthquakes are frequent and violent. Animal life is very abundant, and fish swarm in the seas and rivers. The wild animals, still abundant in the more sequestered localities, are bears, wolves, reindeer, argalis or wild sheep, black, red and gray foxes, ermines, sables and otters. Wild fowl are very numerous. The principal varieties of fish are herrings, cod and salmon. Whales are numerous in the adjacent seas. The mountains are covered with forests of birch, larch, pine and cedar, of considerable size in the south, but diminishing northward until the northernmost portion of the territory is covered only with reindeer moss.

The Kamchadales, the principal native tribe, are of diminutive stature, but stout, with flat features, small eyes, thin lips, lank black hair, and scarcely any beard. They are a peaceable, honest, lazy and intemperate race. In winter they reside in sunken huts, in summer in dwellings elevated on poles some 13 feet from the ground. Their dress is well adapted to the changes of temperature, being of fur in winter and nankeen in summer. They are nominally governed by their own chiefs, under the jurisdiction of the Russian *ispravnik* or chief judge, and the most of them are Greek Catholics. Dog trains are used as the means of transport. The other principal tribe are the Koryaks, who live north of lat. 58°. While the Kamchadales are hunters and fishermen with fixed habitations, the Koryaks are a wandering tribe, subsisting on the produce of the reindeer, and differing from the Kamchadales in language and mode of life. The commerce of Kamchatka is chiefly with Okhotsk. Its exports are furs, skins, oil, etc. Its imports are flour, sugar, dry goods, whisky, rice and coffee, almost all passing through the port of Petropavlovsk, the capital, on Avatska Bay. Pop. of peninsula, 7,270. Consult article by Barett-Hamilton in the *Scottish Geographical Magazine* (Vol. XV, pp. 224–56), in which there is a bibliography.

KAME, low hills of glacial sands and gravels arranged in stratified order. These hills are more or less isolated and frequently form ridges sometimes reaching about 100 feet in height above the surrounding level country. They are frequently found in the vicinity of the terminal moraines along the line of retreat of the Pleistocene continental ice sheets. See DRIFT, GLACIAL PERIOD.

KAMEHAMEHA, kä-mā″hä-mā′hä or kä-mĕ-hä′mĕ-hä, the name of five kings of the Sandwich or Hawaiian Islands. KAMEHAMEHA I, surnamed the "GREAT": b. 1753; d. Kailua, Hawaii, 8 May 1817. As head chief of part of the island of Hawaii in 1781 he subdued the entire group of islands and became ruler of the whole in 1811. He was progressive in his views and encouraged intercourse with Europeans. He was succeeded by his eldest son, KAMEHAMEHA II (LIHOLIHO): b. Hawaii, 1797; d. London, 14 July 1824. He was intemperate but treated the missionaries kindly, professed Christianity, and recommended his subjects to do likewise. Anxious to secure the friendship of England he went thither with his queen, Kamamalu, but both died soon after arriving in London. He was succeeded by his brother, KAMEHAMEHA III (KAVIKEAOULI), surnamed the "GOOD": b. 7 March 1814; d. Honolulu, 15 Dec. 1854. He came to the throne in 1833, the islands having been ruled by a regency since 1824. He introduced a constitutional form of government in 1840, and the independence of the islands was acknowledged by the United States in 1842 and by Belgium, Great Britain and France in 1844. The more important public offices in his reign were filled by foreigners. He was succeeded by his adopted nephew, KAMEHAMEHA IV (ALEXANDER LIHOLIHO): b. 9 Feb. 1834; d. Honolulu, 30 Nov. 1863. He married in 1856 Emma, adopted daughter of Dr. Rooke. In 1860 he founded the Queen's Hospital in Honolulu, personally soliciting subscriptions for this object, in which he took the deepest interest. His elder brother, Lot Kamehameha, succeeded him as KAMEHAMEHA V: b. 11 Dec. 1830; d. Honolulu, 11 Dec. 1872. He proclaimed a new constitution (less democratic than its predecessor), in 1864, satisfactory to the majority of the Hawaiians but distasteful to the foreign population. He never married and left no heir to the throne.

KAMEHAMEHA, Order of, an Hawaiian secret society founded in Honolulu in 1864 by Kamehameha V, the then reigning king of the Sandwich Islands. The order is divided into three classes. The badge of the order is a white enameled cross with gold rays surmounted by a crown.

KAMENETZ-PODOLSK, kä-mĕ-nyĕts′ pō-dōlsk′, capital of Podolia, Russia, situated on the Smotritch River, 235 miles northwest of Odessa. It was, at one time, one of the strongest fortresses in Poland, and to the west of the city there still stands an ancient and massively-built castle, the fortifications of which, together with those of the city, were destroyed in 1813. It was held by the Turks in the 17th century and became part of Russia in 1795. At present it is divided into two distinct parts, one of which lies at the foot of the mountain and the other of which crowns the heights above. It is an important religious centre, being the residence of a Roman Catholic and a Greek Church bishop. Pop. 50,000, about half of whom are Jews.

KAMERUN, kä-mĕ-roon′. See CAMEROONS.

KAMES, irregular hills of stratified drift formed near the ice front, either from superglacial or subglacial drainage. In rare cases they may have been formed under the ice. They are frequently associated with eskers, though the two terms are not to be confused.

KAMES, Lord. See HOME, HENRY.

KAMICHI, kä-mē'chē, the horned screamer (*Palamedea cornuta*). See SCREAMER.

KAMIMURA, Hikonojo, BARON, Japanese admiral: b. Kagoshima, 1849; d. 7 Aug. 1916. He joined the navy in 1871, rose to commander and was later captain of the cruiser *Akitsushima* in the war with China. He was rear-admiral in 1899, and in 1903 became vice-admiral and Chief of the Educational Bureau. As commander of the armored cruiser squadron he served in the Russo-Japanese War, defeated a Russian fleet off the coast of Korea and later took a prominent part in the battle of Tsushima, when the Russian fleet under Rojdestvensky was destroyed. He spent three years in England (1900–03) as chief Japanese naval inspector. He was created a baron in 1907 and became admiral in 1910. It is believed that he led the attack on Tsingtau against the Germans in 1914.

KAMINISTIQUIA, ka-mĭ-nĭs-tikē'a, a river in Canada which has its rise near Lake Nipigon in the province of Ontario, and flows south into Thunder Bay, an inlet of Lake Superior. The town where the Canadian Pacific Railroad crosses this river is named after the river. Along its course are several expansions of the river or lak , and the Kakateka Falls. Before the railroad entered this section this river and its tributaries formed important routes of travel to the northwest.

KAMLOOPS, Canada, city in the province of British Columbia; on the Thompson River at the junction of the north and south branches, and on the Canadian Pacific Railroad; about 255 miles northwest of Rossland and 250 miles northeast of Vancouver. The place where the city now stands was once used as a trading post by the Hudson's Bay Company, but a permanent settlement was made in 1820. Its growth was slow until mining began in the vicinity, and in 1892 it was incorporated. It has lumber mills, railroad and machine shops, foundry, brick-yard, cold storage and ice plant, brewery and a sash and door factory. The waterworks and the electric-light plant are owned by the city. The government seat for the Yale District is Kamloops, and the Dominion and Provincial governments have here land and registry offices. It has a mild climate, and in the vicinity in the river valley are many fine farms. Nearby are mountains and small lakes noted for the beauty of their scenery. Pop. 3,772.

KAMLOOPS TROUT, a name given to a variety of the Steelhead of the rivers of British Columbia. See STEELHEAD.

KAMPANERTHAL, kăm-păn'ĕr-tăl', a work on the immortality of the soul by Jean Paul Richter.

KAMPEN, käm'pĕn, or **CAMPEN, Jacob de,** Dutch Anabaptist leader. When he and his followers were driven out of Upper Germany, they attempted to diffuse their dogmas over the low countries. In 1534 John of Leyden nominated him bishop of Amsterdam, but on attempting to take possession of his see, he met with a cruel death at the hands of the people.

KAMPEN, or CAMPEN, Jan van (so called from the town of Kampen), Dutch scholar: b. Kampen, Holland, about 1490; d. Freiburg, 1538. He was professor of Hebrew at Louvain, 1519–31. He wrote a Latin paraphrase of the Psalms, which has been translated into the chief European languages.

KAMPEN, Nikolaas Godfried van, Dutch historian: b. Haarlem, 15 May 1776; d. Amsterdam, 15 March 1839. He became professor of English and German in the University of Leyden in 1815. Among his historical and literary works, many of which were translated into German, are: 'History of the Literature of the Netherlands' (1812); 'History of French Domination in Europe' (1815–23); 'History of the Influences of the Netherlands Outside of Europe' (1831–33). Consult: 'Life,' by S. R. Von Campen (1887).

KAMPEN, or **CAMPEN,** Holland, a town and port in the province of Overyssel, 45 miles east-northeast of Amsterdam, on the Yessel near its influx into the Zuyder Zee, and where it is crossed by a bridge. Its principal buildings are a church of the 14th century, an elegant town-house, built in an antique style, and a theological school is located here. Anciently it was one of the most flourishing of the Hanse towns; the silting up of the Yessel caused it to decline in importance; but its commerce after a period of decline has again to some extent revived. It produces machinery, steam-engines, hosiery, paper, harness and bricks, etc. It has also ship-building yards. Steamer service connects it with Amsterdam and other important centres, several canals intersect it, and a railway line from Germany through Zwolle terminates here. Pop. 19,745.

KAMPERS, Franz, German professor and author: b. Oesede, Hanover, 16 Oct. 1868. He was educated at the gymnasia of Meppen and Essen-an-der-Ruhr and at the universities of Münster and Munich. From 1894 to 1902 he served as academic assistant at the Royal Public Library of Munich. In 1902–03 he was special professor, and since the latter year has been professor of mediæval and modern history at the University of Breslau. He is the author of many important historical works, including 'Die tiburtinische Sibylle des Mittelalters' (1894); 'Kaiserprophetien und Kaisersagen in mittelalter' (1895, 2d ed., entitled 'Die deutsche Kaiseridee in Prophetie und Sage,' (1896); 'Mittelalterliche Sagen vom Paradiese und vom Holze des Kreuzes Christi' (1897); 'Die lehninsche Weissagung über das Haus Hohenzollern' (1897); 'Alexander der Grosse und die Idee des Weltimperiums in Prophetie and Sage' (1901; 2d ed., 1912); 'Dantes Kaisertraum' (1908); 'Karl der Grosse' (1910). He collaborates in and is joint editor of the *Historisches Jahrbuch der Görresgesellschaft* and contributes to the *Kölnische Volkszeitung.*

KAMPF, kämpf, Arthur, German painter: b. Aix-la-Chapelle, 1864. Educated in art at the Düsseldorf Academy, he soon showed strong individuality and attracted attention both as a portrait and historical painter. He is an excellent draftsman and has a good com-

mand of coloring. Among his historical paintings are 'Blessing the Volunteers of 1813' (Karlsruhe Gallery); 'Frederick the Great Addressing his Generals' (Düsseldorf Gallery); 'A People's Sacrifice' (Leipzig Museum); and among his other paintings are several portraits of Kaiser William II; 'Two Sisters' (Ravené Gallery, Berlin); 'Benevolence'; 'Before the Chapel of Kevelaer' (Dresden Gallery); 'Bridge Building.' Kampf has also done some very fine mural painting, the most notable examples of which are in the Kreishaus at Aix-la-Chapelle and in the Royal Library, Berlin.

KAMPF UM ROM, Ein, 'A Struggle for Rome,' one of the most noted of the novels of Felix Dahn (q.v.).

KAMPHAUSEN, Adolf Hermann Heinrich, ä'dōlf hĕr'män hīn'rĭH kamp'how-zĕn, German theologian: b. Solingen, 10 Sept. 1829; d. 1909. He was educated at Bonn, in 1855 became secretary of Karl Josias Bunsen, whom he assisted in the latter's 'Bibelwerke,' and in 1863 was appointed professor of theology at Bonn. In 1871–90 he was active as a member of the theological commission for the revision of Luther's translation of the Old Testament. He resigned all professional duties in 1901. His publications include 'Das Lied Moses' (1862); 'Die Hagiographen des Alten Bundes nach den überlieferten Grundtexten übersetzt' (1868); 'Das Buch Daniel' (1893); 'Das Verhältnis des Menschenopfers zur israelitischen Religion' (1896). He also edited Daniel (1896) for Haupt's 'Polychrome Bible.'

KAMPTULICON (Greek *kamptos,* flexible, and *oulos,* thick), floor cloth made from rubber and powdered cork, the two substances being heated and pressed into sheets after mixing by being pressed between steam-heated cylinder rollers.

KAN-SU, kän-soo', an inland province of China, in the northwestern part; area, about 125,450 square miles. At one time Shan-Si, on the east, was a part of Kan-Su, and until 1865 its jurisdiction extended over a much greater extent of territory than at present. The capital is Lan-Chau. The province is rich in coal fields and in deposits of copper ore. Copper smelting works have been established at Yaokai, 70 miles west of the capital under government auspices and hunting for the sake of the fur is one of the chief occupations. Tobacco of a superior quality is raised in this province. Pop. about 3,810,000.

KANĀDA, kă-nä'dă (Sanskrit *kana,* atom, *ad,* eat, atom eater), Hindu philosopher and founder of Vaiseshika (atomic school) in Hindu philosophy. He held the individuality of single spirits to be distinct from the supreme spirit. The name Kanāda, which was given him in derision of his theories, by his enemies, was so descriptive of his philosophical methods, that it finally supplanted his real name. It has now become synonymous with deep and exact thinking. Consult Macdonell, 'History of Sanskrit Literature' (London 1913).

KANAGAWA, kă-nä-gä'wă (Japanese, golden stream), a Japanese town on the Bay of Tokio, not far from Yokohama. The seat of a prefecture, it was formerly of more importance than now. It was also at one time the official site of a treaty port. But in this latter office it has given way to Yokohama. Pop. about 20,000.

KANAKAS, kạ-nak'ạz, a popular name given the natives of Hawaii, New Caledonia, New Hebrides and other islands in the South Seas.

KANANUR, kä-nạ-noor', or **CANNANORE,** British India, a seaport town in the district of Malabar, presidency of Madras, 44 miles northwest of Calicut. It became an important centre of trade in the 12th and 13th centuries, and was visited by Vasco da Gama in 1498. It has somewhat lost importance as a trade centre, ranking fourth among the ports of Malabar. Pepper, grain, timber and cocoanuts are its main products. There is a fort of triangular area, built by the Dutch and occupied by them till 1766. It was taken by the British in 1783. Pop. 28,957.

KANARESE, kăn'ă-rēs', a part of the Hindustan Dravidians who inhabit the Mysore table-land, a section of southern Bombay and a part of the Kanara territory. Their language which is highly developed and the vehicle of a very ancient civilization, possesses a literature of some considerable extent and importance and serves as the popular speech of the 10,000,000 people of the Kanarese, who are ranked among the civilized races of India. See DRAVIDIANS.

KANARI, or **CANARI,** a tree of the genus *Canarium* (q.v.), many species of which flourish from India to Australia and the Philippines. The foliage is abundant and handsome, and the wood is hard, heavy and suitable for cabinet work, house-trimming, etc. The fruit is a drupe with a hard oily kernel, which forms the particular food of the great cockatoos of the region. The kernel of *C. commune,* known as Java almond, is eaten by the natives either fresh or roasted; and the Amboinese dry it, grind it and bake the flour. Some other species also furnish edible kernels; and from all an oil may be pressed, said to be better than cocoanut oil, both for cooking and for use in lamps. An oil is obtained from the bark resembling balsam copaiba (see COPAIBA). These trees also yield the medical resin elemi, and a gum called black damar.

KANARIS, Konstantine, Greek soldier and statesman: b. on the island of Ipsara, in the Grecian archipelago, 1790; d. 15 Sept. 1877. He has been magnified into a sort of modern edition of the ancient Greek hero, on account of his venturesome deeds during the Greek War of Independence. Among his exploits were the blowing up of the staff ship of the Turkish admiral in the Strait of Chios (June 1822); the burning of the ship of the Turkish admiral in the harbor of Tenedos (November 1822); the burning of a Turkish frigate and transport ships carrying troops to Samos (August 1824); attempting to burn the whole Egyptian fleet in the haror of Alexandria where it was making ready to transport troops to the Peloponnesus (1825). He was elected a member of the national legislature in 1827, and held important military positions up to 1848 when he became Minister of Marine and president of the Cabinet. At the age of 72 he took an active part in the revolution of 1862,

and even after this he held numerous important offices under King George. At the time of his death when he was 87, he was still president of the Cabinet and Minister of Marine.

KANAUJ, kạ-nouj', or **KUNNOJ,** ancient capital of the pergunnah of same name, in Farrukhabad District, India. The ruined village which to-day represents its ancient greatness is situated on the Kali Nadi near its junction with the Ganges. Kanauj (Kanyakubja) one of the oldest and greatest of early Indian cities, dates back to 900 B.C. Even at this early date, and for over 2,000 years afterward, it continued to be the centre of intense Brahman activity. This and its other energies made it the chief of the cities of India. But from its conquest in 1193 by the Sultan of Delhi, it suffered one disaster after another until to-day it is simply a great ruin amidst which live a miserable straggling population.

KANAWHA (kạ-nâ'wạ) **RIVER,** a tributary of the Ohio River, has its rise between the Blue Ridge and Iron Mountains in the northwestern part of North Carolina, flows northeast by north through the southwestern part of Virginia, then changes its course northwest and west into West Virginia, and flows into the Ohio River at Point Pleasant. It receives the Gauley River in Fayette County, West Virginia, and from thence to its mouth is known by the name of Great Kanawha. The river, at a cost of over $4,000,000, has been made navigable from the Ohio to Great Kanawha Falls, about three miles from the mouth of the Gauley River. It is about 450 miles in length.

KANAZAWA, kạ-nạ-zä'-wạ, the largest city on the western coast of Japan, on the main line railway, five miles from the sea. It was founded in 1583 and the fief, given by Hideyoshi to Mayeda, one of his captains, made thus feudal ruler of Kago, Noto and Etchiu (one city, eight counties, and 774,091 inhabitants), the wealthiest of all in Japan. Like other cities in Japan, it declined after the fall of feudalism, in 1871; but, like most of them also, regained prosperity with the help of Yatoi or foreign assistants, through manufactures, modern improvements and increase of the output of bronze and lacquer work, red decorated pottery (kutani), and habutai (see FUKUI) silk. Its public buildings are notable and its renowned public gardens are the finest in Japan. The Kenroku Park of the Six Combinations — vastness, solemn solitude, labor bestowed, venerable moss-covered appearance, running water and charming prospect, is one of several places of recreation. Public library, commercial museum, and most of the features of a modern city are here. Hakusan, or White Mountains, and one of the most noted in all Japan (8,794 feet high), is in view. The thousands of pilgrims annually ascending it usually start from this place. Consult Guide to Eastern Asia, Vol. III (1914). Pop. 129,084.

KANCHIL, the smallest species of chevrotain (q.v.). It inhabits Java and neighboring islands, is less than a foot tall, and is proverbially quick and clever in its movements and hiding in the forest. Its scientific name is *Tragulus javanicus.*

KANDAHAR, kän-dä-här', or **CANDAHAR,** Afghanistan, one of the largest cities of the principality, on a fertile and well-cultivated plain, 3,462 feet above the sea, 313 miles southwest of Kabul. It is enclosed by a mud wall 27 feet high, with a large tower at each of the four corners, 54 semi-cylindrical bastions, and a broad and deep ditch in front, capable of being filled with water from the river. There are six gates, each protected by double bastions. The circumference of the city is over three miles. One of the most imposing buildings is the octagonal, domed structure containing the tomb of Ahmed Shah. There are 180 mosques in the city. It is claimed that this city was founded by Alexander the Great. Kandahar is famous for the fruits grown in the vicinity, and tobacco is cultivated for export supported by the transit trade, but it has important manufactures of felt and silk. It was held by the British in 1839–42, and again in 1879–81. Pop. estimated at 31,000.

KANDY, kän'dē, or **CANDY,** Ceylon, one of the chief towns on the island, is situated near the centre, 72 miles northeast of Colombo, at the height of about 2,000 feet. "Kandy is uniquely beautiful — the most charming little town in the world," travelers usually describe it. It is situated in a valley surrounded by hills, and boasts an artificial lake, Buddhist and Hindu temples, including the Daladá Máligáwa, the most sacred Buddhist temple in the world. This contains the so-called relic of Buddha's tooth, and also many ancient manuscripts written in Pali and Sanskrit. "The Pavilion," or official residence of the governor, is one of the finest structures in Ceylon. Kandy is connected by railroad with Colombo. The botanic gardens of Peradenia are three miles from Kandy. Kandy was the capital of the ancient kings of Ceylon. Pop. 30,148.

KANE, Elisha Kent, American Arctic voyager: b. Philadelphia, 20 Feb. 1820; d. Havana, Cuba, 16 Feb. 1857. He was graduated as M.D. in the University of Pennsylvania in 1842, and shortly afterward became surgeon to the American embassy to China. After extended travels in India, Egypt, and the continent of Europe he returned to America in 1846, and was employed in the government survey of the Gulf of Mexico. In 1850 he obtained the appointment of senior medical officer to the expedition of two vessels, the *Advance* and the *Rescue,* which sailed from New York on the 22d of May in that year in search of Sir John Franklin. On the return of the expedition Dr. Kane published 'The United States Grinnell Expedition in Search of Sir John Franklin — a Personal Narrative.' On the 31st of May 1853, the *Advance* alone, under Dr. Kane's command, sailed again from New York to resume the search, and proceeding up Baffin's Bay and through Smith's Strait, reached lat. 78° 43' N. Here the *Advance* remained frozen up for 21 months, and was finally abandoned because provisions were becoming scarce and scurvy and other diseases had made their appearance. The object now was to reach the Danish settlements in Greenland, about 1,300 miles distant. This long and perilous journey, partly in boats and partly in sledges, was accomplished, after 10 weeks of severe privation, with the loss of only one man, and that by an accident. In 1856 Dr. Kane published 'The Second Grinnell Expedition,' and was awarded

gold medals from Congress, the New York legislature and the Royal Geographical Society. Consult Elder, 'Biography of Elisha Kent Kane' (1857); Greely, 'American Explorers' (1894).

KANE, John Kintzing, American jurist: b. Albany, N. Y., 16 May 1795; d. Philadelphia, Pa., 21 Feb. 1858. He was graduated from Yale in 1814, was admitted to the bar in 1817, entered practice in Philadelphia, was elected to the Pennsylvania legislature as a Federalist in 1823, later became a Democrat, and supported Jackson in the canvass of 1828. In 1845 he became attorney-general of Pennsylvania, in 1846 United States district judge for Pennsylvania, in 1856 president of the American Philosophical Society. He won distinction by his legal attainments and his decisions in patent and admiralty law, but his commitment of Passmore Williamson for contempt of court in an action under the Fugitive Slave Law was attacked by the Abolitionists.

KANE, Paul, Canadian artist: b. Toronto, 1810; d. 1871. He received his early art education at Upper Canada College, and was inspired with the ambition to depict the Indians. After spending some years in the United States, he went to Europe in 1841, studied art in Italy, and returned to Toronto in 1845. He made a transcontinental journey in 1846–47, in the course of which he visited many of the western tribes, and brought back with him some hundred sketches of great ethnological value, and developed later into an important series of paintings of Indian life and western scenery. In 1859 he published the literary result of his travels, 'Wanderings of an Artist among the Indian Tribes of North America,' illustrated by his own sketches.

KANE, Sir Robert John, Irish chemist: b. Dublin, Ireland, 24 Sept. 1809; d. there, 16 Feb. 1890. He was educated for the medical profession and in 1832 became a member of the Royal Irish Academy. In the same year he founded the *Dublin Journal of Medical Science* and was its editor for two years. From 1834 to 1837 he was professor of natural philosophy to the Royal Dublin Society; in 1846 originated the Museum of Industry in Ireland. He was knighted the same year, was president of Queen's College, Cork, for several years prior to his resignation in 1873, and in 1876 was elected president of the Royal Irish Academy. He wrote 'Elements of Chemistry' (1842); 'Industrial Resources of Ireland' (1884), etc.

KANE, Pa., borough in McKean County, on the Baltimore and Ohio, the Pennsylvania and other railroads, 95 miles southeast of Erie, 175 miles north of Pittsburgh and 122 miles from Buffalo. There are here several of the largest window glass factories in the world, plate glass and bottle factories, lumber-mills, wooden-ware factories, saws, cutlery, screen doors and window factories and other flourishing industries. There are extensive natural gas and oil wells and deposits of silica in the surrounding country which are of great commercial benefit to the town. On account of its elevation of 2,200 feet, Kane is an attractive summer resort, with good hunting and fishing grounds in the vicinity. It was first settled in 1859 and became a borough in 1887. The government is vested in a burgess and a council of nine members, elected every three years. Pop. 6,626.

KANEKO, kä'nā-kō (Viscount) **Kentaro,** Japanese statesman: b. Fuknoka, 1853. He came of an old Samurai family, and received foreign education in the United States, being graduated from the Harvard Law School in 1878. He began his career as a professor in the school that was the forerunner of the Tokio Imperial University. In 1885 he became private secretary to Prince Ito, then Premier of Japan; was sent abroad for the purpose of investigating constitutional systems; served as president of the Privy Council (1888–90), and chief secretary of the House of Peers, 1890. Two years later, he was a delegate to the International Law Conference in Switzerland. He was vice-minister for agriculture and commerce in 1894; minister of the same department in 1898, and in 1900 Minister of Justice. During the Russo-Japanese War (1904–05) he was non-official representative of his government in this country, and a powerful factor in effecting the peace negotiations at Portsmouth. In 1890 Kaneko was made baron, after the war, was created viscount, and appointed Privy Councillor.

K'ANG-HI, or **KANG-HSI,** the second emperor of the Ta Tsing dynasty established in China by the Manchu Tartars: b. 1655; d. 1722. He began to reign in 1661, under a regency and assumed the reigns of government in 1669, when only 14 years of age. When he was 19 he was forced to face a rebellion of the Chinese under Wu San-Kuei, which spread throughout the whole vast empire. But K'ang-Hi struggled against many very great difficulties and was finally successful in restoring the country to order and in even extending his authority to Khokand, Badakhshan and Thibet. He proceeded to consolidate his power by increasing the number of provinces to 18 and extending his dominion most intimately over each of them. The Jesuits, who were welcomed by him, contributed to his victories by supplying him with the most modern cannon and arms then in use in Europe, and to the scientific glories of his court by the reformation of the calendar (1669), the taking of a complete census and the surveying of the whole empire. Under these and other influences K'ang-Hi became a great and consistent patron of art and literature. In this field his energies, very active at court, extended to other literary centres of the empire. So strong became the influence of the Jesuits that Christianity was officially recognized in 1692. A break, however, occurred with Rome in 1698, when the Pope decided against ancestor worship to which the emperor clung tenaciously as a vital part not only of his religious faith but also of his family creed. The breech between the emperor and Rome continued to widen until finally the former issued an edict banishing from the country all the Christian missionaries who dared to differ from his own expressed opinion on these or other matters. Among the literary activities patronized by K'ang-Hi and supervised by him were the great Imperial Dictionary of Chinese; a concordance to all Chinese literature ('Pei-Wên-Yun-Foo') in 110 large volumes; two great encyclopædias, the largest of which (the 'Ku-Kin T'oo Shu-Tseih-Ching') consists of

over 5,000 volumes. For this latter vast undertaking movable copper type was used. These, though the most notable, were only a few of his many art and literary activities. He encouraged commerce with foreigners and granted permission to the East India Company to establish an agency in China (1677). Consult Giles, 'China and the Manchus' (Cambridge 1912); Rémusat, 'Nouvelles Mélanges asiatique' (Paris 1829).

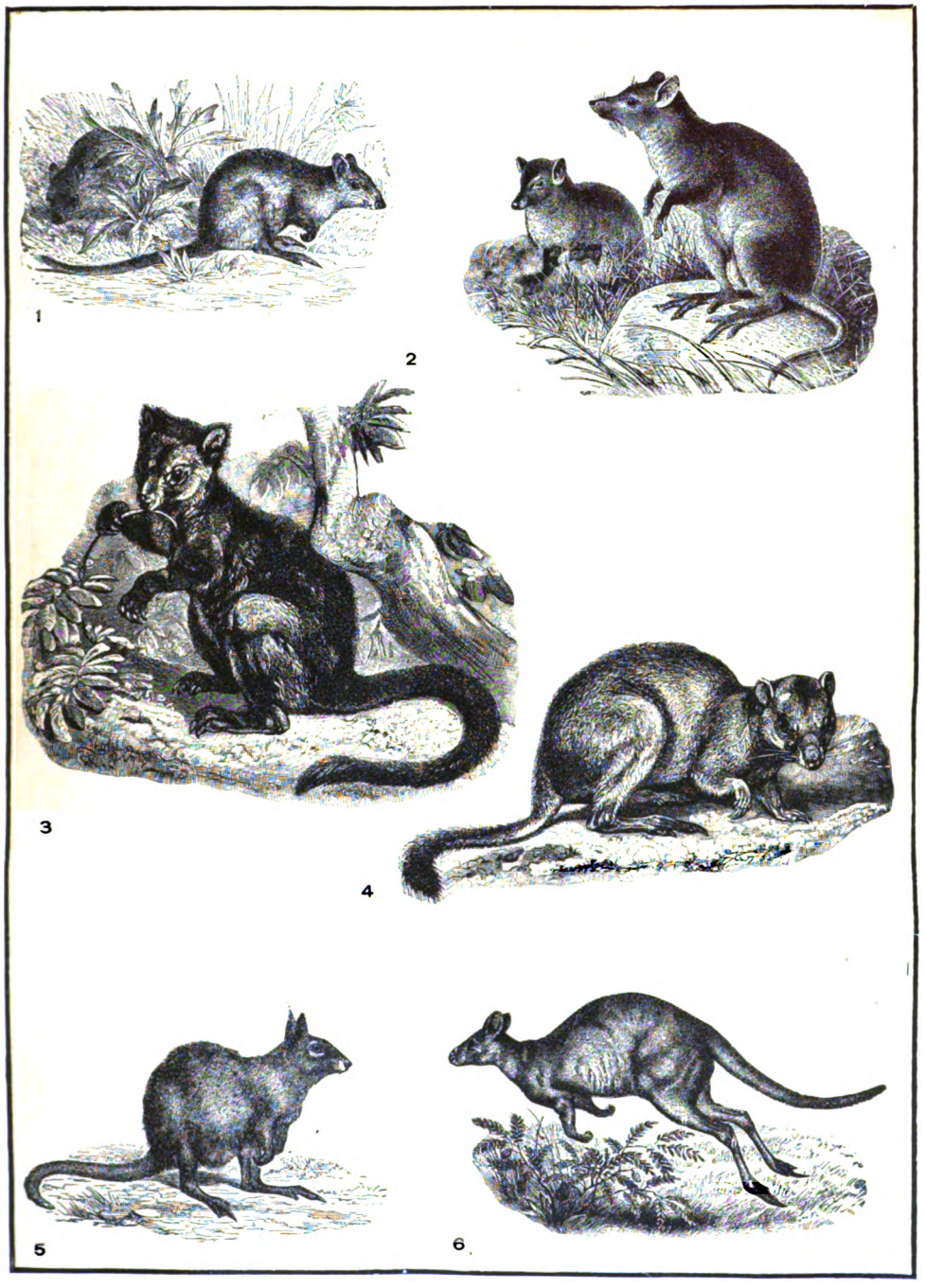
K'ANG-WA, käng'wä', or **KANG-HOA** (Japanese at the river mouth), an island situated at the mouth of the Han River, Korea. From a military point of view it is held to be of great importance, guarding as it does the waterway to Seoul, the capital. Modern warfare methods have rendered it of much less military value than it possessed in the past when it formed the one great fortified place of refuge of the court in times of extreme danger due to the many invasions suffered by the country. During the independence of Korea it formed the place of deposit (in duplicate) of the archives of the government, which were kept in a strongly fortified Buddhist monastery and guarded by clerical militia. So strong was this place that the French, who had captured K'ang-wa, under Admiral Rose, were unable to take the island by storm and suffered a severe defeat and great loss though it was defended by only 5,000 Koreans. Five years later, however, the American Admiral John Rodgers, whose survey boats of the United States squadron then in Korean waters, had been fired upon, landed a force commanded by Winfield Scott Schley and captured all five of the forts. In September 1875, the Japanese, under similar conditions, stormed the place and dictated a treaty of peace. Naturally, being so intimately connected with the life of the court and the nation, K'ang-Wa and the immediate neighborhood are rich in historical and other monuments. Consult Griffis, W. E., 'Corea, the Hermit Nation' (New York 1911); Hamilton, 'Korea' (New York 1907).

K'ANG-YU-WEI, käng' yōō'wā', Chinese scholar and reformer: b. Canton, 1858. Coming under the influence of the missionaries he became greatly interested in western civilization which he studied deeply. This led him to become the leader of the Reform party in China. His influence spread to all the provinces where it was especially strong in the schools of higher learning. This brought him to the attention of the court and he became the chief adviser of the emperor and the very spirit of the reform movement of 1898, the failure of which forced K'ang into exile. Wandering about from Hongkong, to Singapore and other places in the east he organized the «Pao Huang Hwei» or Empire Reform Society, the object of which was to modernize China. It was extended to England, America and wherever Chinese were in strength, and played a very considerable part in the overthrow of the monarchy and the establishment of the republic (1911). K'ang Yu-Wei and his associates had a powerful influence in Republican China, especially in 1913. Among his published works are a 'New Commentary on the Chinese Classics,' and 'Modern Japan.'

KANGAROO, an Australian marsupial of the family *Macropodidæ*. The word is derived from a native name of the giant kangaroo. The *Macropodidæ* are readily distinguished from other marsupials by their shape. The head is small, with large mule-like ears; the neck slender, the trunk narrow before and very massive behind; the fore limbs small and weak with five toes and used chiefly as hands; the hind limbs long, extremely powerful, four-toed and serving as the chief organs of locomotion; and the tail thick, heavy and muscular, serving to support the body, in combination with the hind legs, as on a tripod. The dentition is noteworthy, having a somewhat rodent-like appearance. There are three pairs of incisors above, presenting a sharp cutting edge which the single pair of lower incisors passes like the blade of a shears. The molars are flat-crowned. The kangaroos are strictly vegetarian, and in Australia represent the deer, antelopes and hares of other regions. About 50 species belonging to 12 or 15 genera have been described from Australia and the neighboring islands. The giant kangaroo (*Macropus giganteus*), the largest, is frequently exhibited in zoological gardens. This, the first of the kangaroos known to white men, was discovered by Captain Cook during his exploring voyage in 1770, and was described under the name *Didelphys gigantea* from specimens brought home by him. When standing erect in the attitude of scenting danger it is nearly as tall as a man, and when in full flight propels itself by bounds of 12 to 15 feet. It often gathers into large bands, or did so formerly, when more abundant. On account of its destructiveness to herbage on the sheep-ranges, as well as for sport, it is much hunted by the colonists, a favorite method being coursing. When brought to bay by the hounds it proves no mean antagonist, and frequently kills a dog by seizing it in its arms and ripping it open with the great hind toe. As in other kangaroos the hind feet have a peculiar structure; the fourth toe is enormously developed and furnishes almost the sole support; the fifth is of moderate size; in sharp contrast the second and third toes are minute, slender and bound together so that only their sharp claws project from the skin, their only function being to comb and cleanse the fur. The one or two young are born in an exceedingly helpless state, and after being placed in the pouch of the female remain attached by their mouths to the nipples for several weeks or months; at first they are quite incapable of sucking, and the milk is injected into their mouths by the periodical contraction of the muscles of the mammary glands. Even after they are able to run about, they return to the mother's pouch for temporary rest and shelter. Closely related are the red kangaroo (*M. rufus*) and other species inhabiting the mountains, and the numerous species of large and small wallabies or brush-kangaroos, some of which inhabit New Britain and New Guinea, as well as Australia. The genus *Dendrolagus* includes the arboreal tree-kangaroos. The large rock-kangaroos (genus *Petrogale*) dwell among rocks, leaping about them with great agility and using their long tails like a balancing-pole. The rat-kangaroos (sub-family *Potorinæ*) are a small group of species somewhat resembling rats and rabbits in size and habits. They are nocturnal and obtain their food largely by digging roots. Fossil forms are exhumed from the Pleistocene rocks of Australia

GIANT KANGAROO (*Macropus rufus*)

KANGAROOS



1 Kangaroo Rat
2 Hypsiprymnodon
3 Tree Kangaroo
4 Rock Kangaroo
5 Hare Wallaby
6 Pademelon Wallaby

very similar to modern genera, but some of the older ones were much larger than any existing species. Consult Waterhouse, 'Nat. Hist. of the Mammalia' (London 1846); Gould, 'Monograph of the Macropodidæ' (London 1841); and 'Mammals of Australia' (London 1863); Flower and Lydekker, 'Mammals Living and Extinct' (London 1891); Ingersoll, 'Life of Mammals' (New York 1906), and systematic works.

KANGAROO GRASS (*Anthistriria ciliata*), an Australian fodder grass cultivated there and in India where it is highly esteemed. It, like all its family, is very nutritious and affords excellent pasture, the plant growing not only high but thick.

KANGAROO-RAT, a small and pretty jerboa-like rodent of the southwestern United States. It has very long and strong hind legs, and runs by a series of leaps with great swiftness. It inhabits arid regions, dwells in extensive burrows of its own digging, and feeds mainly upon sunflower-seeds, great quantities of which are stored up for winter use, when the burrows are warmly furnished with grass. It belongs to the pocket-mouse family (*Heteromyidæ*) and is named *Perodipus ordi* by systematists. Consult Stone and Cram, 'American Animals' (1902).

Kangaroo-mice are smaller American rodents of the genus *Perognathus*. See POCKET-MICE.

KANITZ, kä'nĭts, **Felix Phillip,** Hungarian archæologist and ethnologist: b. Budapest, 1829; d. 1904. Well educated and possessing private means, he traveled through Germany, Belgium, France and Italy and the south Slavic countries, devoting his time and attention, for the most part, to the study of the archæology, art and ethnology of these countries. Finding his greatest interest, in these studies, in Albania, Herzegovinia, Serbia and Bulgaria, he deliberately determined to concentrate his studies and investigations on these countries. Among his published works are 'Die römischen Funde in Serbien' (1861); 'Serbiens byzantinische Monumente' (1862); 'Reise in Südserbian und Nordbulgarien' (1868); 'Serbien' (1868); 'Donau-Bulgarien und der Balkan' (1882); 'Katechismus der Ornamentik' (1896); 'Römische Studien in Serbien' (1892).

KANKAKEE, kăn-kạ-kē', Ill., city, county-seat of Kankakee County; on the Kankakee River, and on the Illinois Central and the Cleveland, Cincinnati, Chicago and Saint Louis and other railroads, about 133 miles northeast of Springfield and 56 miles south of Chicago. It was settled in 1850 and incorporated as a city in 1854. The water power of the Kankakee River is extensive at Kankakee, and as a result the city is largely engaged in manufacturing, and the water power is also used for electric-lighting plants and electric tramways. It is situated in an excellent agricultural region, and its good railroad facilities make it an important commercial centre for a large extent of country. The chief industrial establishments are agricultural implement works, piano factories, furniture factories, knitting works, sewing machines and stone quarries. Some of the other manufactures are starch, flour, wagons, bricks, tiles, nails, foundry products, mattresses, cigars, some dairy products. The churches are two Methodist Episcopal, one Presbyterian, four Roman Catholic, one Lutheran, one German Methodist, one Reformed Lutheran, one Seventh Day Adventist and one Christian Science. The educational institutions are the public and parish schools, Saint Joseph's Seminary, a Conservatory of Music and in Bourbonnais Grove, a suburb of the city, Saint Viateur's College and Notre Dame Academy. It has the Illinois Eastern Hospital for Insane and the Emergency Hospital, a public library, the Y. M. C. A. building, and the city buildings. There are two national banks and two savings banks with a combined capital of over $300,000. The government is vested in a mayor, who holds office two years, and a council of 10 members, one-half of whom are elected each year. The council elects the administrative officials and the health and local improvement boards. Pop. 14,150.

KANKAKEE, a river of northern Illinois, which has its rise in English Lake, Starke County, in northern Indiana, flows west and southwest and enters Kankakee County in Illinois. From where it receives the waters of the Iroquois from the south, the course changes to the northwest until it enters Grundy County, where it unites with the Des Plaines River and forms the Illinois. Consult Twenty-second Annual Report of the State Geologist of Indiana (1898, pp. 55–65).

KANNEGIESER, kăn'nē-gē'sĕr, **Karl Friedrich Ludwig,** German author and critic: b. Wendemark, 1781; d. 1861. Educated at Halle, he was a teacher from 1807–43. He wrote spirited lyrics and successful dramas; but much of his literary activity was given to translations from ancient and modern languages. Among these are the 'Divina Commedia'; Beaumont and Fletcher (1808); Dante's lyrics (1842); Horace's 'Odes'; and selections from the works of Byron, Anacreon, Sappho, Chaucer and Scott. He was one of the most skilful and extensive of the interpreters of the works of Goethe.

KANO, kä-nō', in the British protectorate of northern Nigeria, (1) the chief town and a province of the extensive Sudanese sultanate annexed by Great Britain in 1903. Kano is the point of convergence of many caravan routes and is the principal market and centre of trade for the interior of Africa. Leather and cotton goods are extensively manufactured and dyeing is carried on. On account of its industries Kano has been called the Manchester and Birmingham combined of the Dark Continent. The annual attendance of the market at Kano exceeds 1,000,000 persons from all parts of Africa; Morrell estimates the attendance as twice as large. The market is held daily throughout the year and is believed to have existed at this place for over 1,000 years. Sign language is largely used by the heterogeneous crowd in making bargains. In addition to native wares and produce, such as ivory and ostrich feathers, European merchandise and ammunition are on sale. The objectionable feature of the old market was the trade in slaves, but that has disappeared under British rule. The wall surrounding Kano is 11 miles in circumference, is 40 feet thick at the base, and from 40 to 50 feet in height. The houses are chiefly of

adobe and the streets are wide and clean. Kano was occupied by a British punitive expedition in 1903. Pop. about 100,000. (2) The province of Kano has an area of 31,000 square miles, and a population of 2,250,000. See also Sokoto.

KANSA, or KAW, kăn'să, kă, a Siŏuan tribe, formerly living on the lower Kansas River in Kansas. See Kaw.

KANSAS, the 21st State admitted into the Union, has been an important pivot in American history for more than half a century. The activities and achievements incident to its formation and development caused George Bancroft, the historian, to designate Kansas as "the miracle of the age." Exclusive of Alaska, and the island possessions recently acquired, Kansas is the geographical centre of the United States, which fact inspired Senator Ingalls' characteristic simile: "Kansas is the navel of the Nation." The name of the State is derived from the Sioux Indian word "Kanza," meaning "swift wind" or "smoky wind," the latter significance being associated with an early period when prairie fires raged over the plains. In the beginning Kansas was referred to as the "Sunflower State," on account of the rank growth of that plant on the unbroken sod, but this distinction no longer applies because the sunflower is now a cultivated rather than a voluntary product. Another designation is the "Jayhawker State," derived from a marauding bird indigenous to the locality. This nickname is perpetuated in the college yell of the University of Kansas, "Rock-Chalk-Jay-hawk-K-U." The motto of the State is *Ad Astra per Aspera,* and its meaning exemplifies the State's history — "Through difficulties to the stars." The State is situated in latitude 37° to 40° N., long. 94° 40′ to 102° W.; is bounded on the north by Nebraska, on the northeast and east by Missouri, on the south by Oklahoma, and on the west by Colorado.

Topography.—Although a part of the great plains which form the eastern slope of the Rocky Mountains, the physical character of the Kansas country is best described as rolling prairie. There are no mountains, and no marshes. The altitude varies from 750 feet in the eastern to 4,000 feet in the western part of the State. The bulk of the land is tillable, but crops are uncertain in the western third of the State on account of deficient rainfall. In this deficient area the vast stretches of prairie are largely used for grazing purposes. The rivers are the Kansas, Arkansas, Republican, Smoky Hill, Solomon, Saline, Neosho and Verdigris — none of them navigable. There are numerous smaller streams, giving abundant water and drainage in the eastern two-thirds of the State. The land area comprises 82,080 square miles (52,531,200 acres), extending 408 miles from east to west and 207 miles from north to south.

Climate.— The climate is mild, the great proportion of the days being fair and sunny. In summer the temperature ranges from 80° to 100°, with cool nights, and dry, pure air. In winter it rarely falls below zero. The violent winds of winter and spring, known to the early settlers, have been greatly mitigated by the cultivation of the soil and the planting of trees.

Mineral Resources.— These consist principally of coal, zinc, lead, natural gas, petroleum, cement and gypsum. With the exception of the three last-named commodities the mining industry is chiefly located in the southeast corner of the State, embracing the counties of Cherokee, Crawford, Labette, Bourbon, Montgomery, Chautauqua, Neosho and Allen. Extensive mines of coal are also found in Leavenworth and Osage counties. The principal salt mines are in Reno County, and there are limited mines in Ellsworth, Harper, Kingman and Rice counties. Building stone of excellent quality is found in various parts of the State. Underlying the surface of Kansas are the three common formations known as the Carboniferous, Triassic and Cretaceous systems, running from north to south, and dividing the State into three belts of nearly equal extent. In the year 1914 the values of the mineral products of Kansas were: Coal, $11,238,253; brick and tile, $1,905,961; salt, $924,550; stone, $825,607; lead, $194,043; zinc, $2,338,796; gypsum, $308,308; cement, $3,180,669; natural gas, $3,340,025; petroleum, $2,433,074; total, $26,689,286.

Kansas now ranks ninth among the States in the production of petroleum, her output for 1916 being estimated at 7,500,000 barrels. New fields recently developed in Butler County have a daily capacity of more than 35,000 barrels, from upward of 600 producing wells. Additional development is in progress in other parts of the State, both in oil and gas. At the close of the year 1916 there were more than 3,500 wells in active operation and fully 300,000 acres of oil lands under lease.

Agriculture and Stock-raising.— The yields and values of the crops and products for the year 1917 were:

		Value
Winter and spring wheat, bushels	41,563,387	$85,679,211
Corn, bushels	106,166,517	120,540,411
Oats, bushels	60,611,849	36,612,776
Rye, bushels	1,293,371	2,203,521
Barley, bushels	4,010,860	4,013,793
Emmer ("Speltz"), bushels	5,234	3,466
Irish and sweet potatoes, bushels	3,592,231	5,183,229
Cowpeas, tons	3,575	57,200
Flax, bushels	357,043	964,016
Broom corn, pounds	18,571,095	2,495,999
Millet, tons	128,419	1,280,641
Sugar beets, tons	108,699	694,754
Sorghum for syrup, gallons	422,118	295,483
Kafir, bushels	11,818,215	16,809,378
Milo, bushels	3,327,329	4,753,391
Feterita, bushels	1,715,379	2,481,448
Sorghum hay, forage and stover, tons	4,802,380	27,986,475
Saccharine sorghum for seed, bushels	598,235	966,264
Jerusalem corn, tons	3,507	25,936
Sudan grass, tons	62,065	574,038
Alfalfa, tons	3,069,548	56,570,863
Tame hay (not alfalfa), tons	*486,174	7,896,851
Prairie hay, tons	1,031,986	14,782,475
Wool clip,* lbs.	360,857	101,040
Cheese, pounds	49,605	8,465
Butter, pounds	43,813,454	13,923,875
Condensed milk, pounds	10,749,605	644,976
Milk sold, other than for butter and cheese	.....	1,654,962
Animals slaughtered or sold for slaughter	.....	81,289,411
Poultry and eggs sold	.....	14,159,909
Horticultural products*	.....	2,251,434
Honey and beeswax, pounds	1,256,836	227,921
Wood marketed	.....	92,476
Total value of all farm products		$507,225,488

* Product of 1916.

KANSAS.

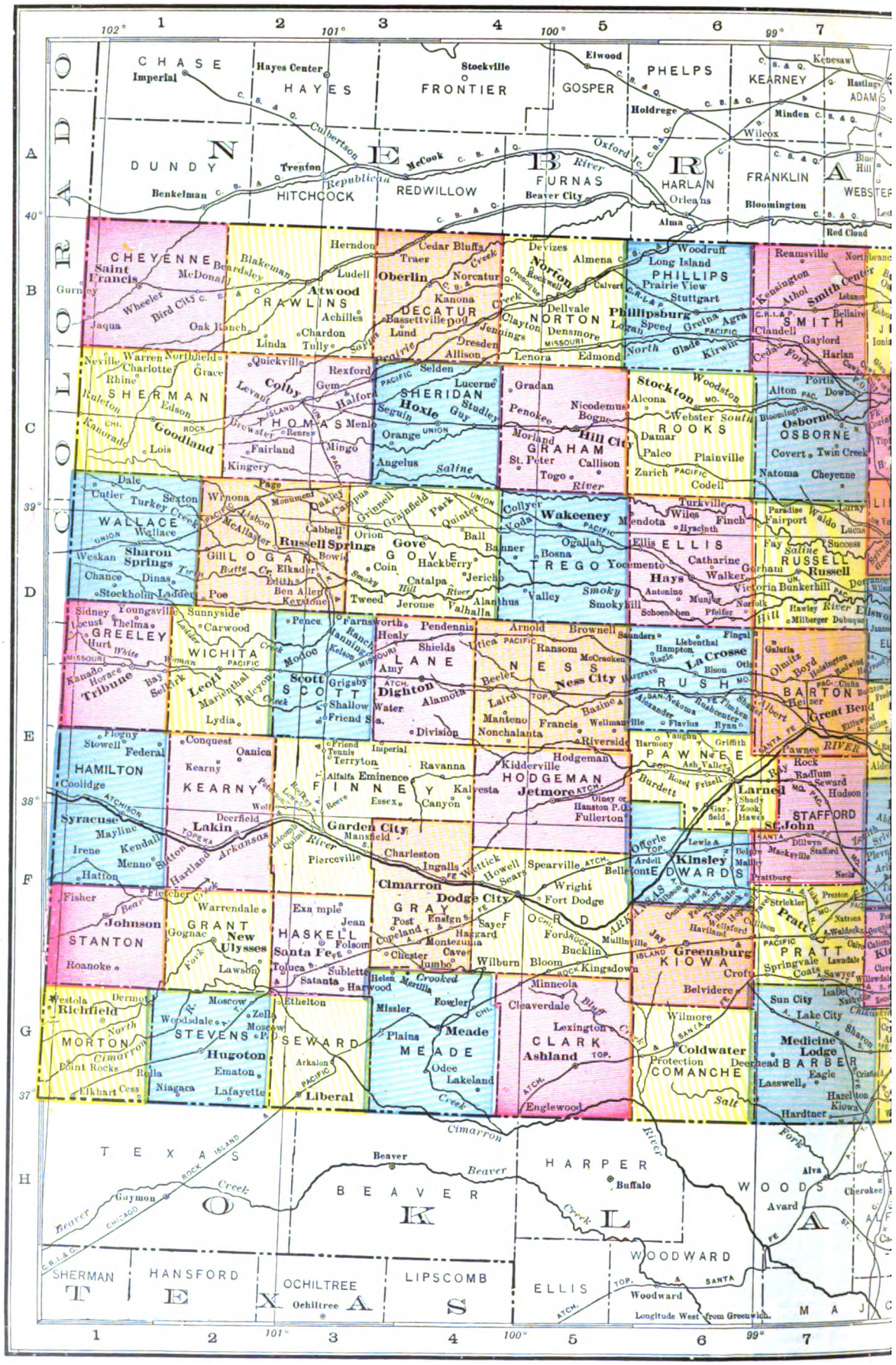
Estimated population, 1,829,545

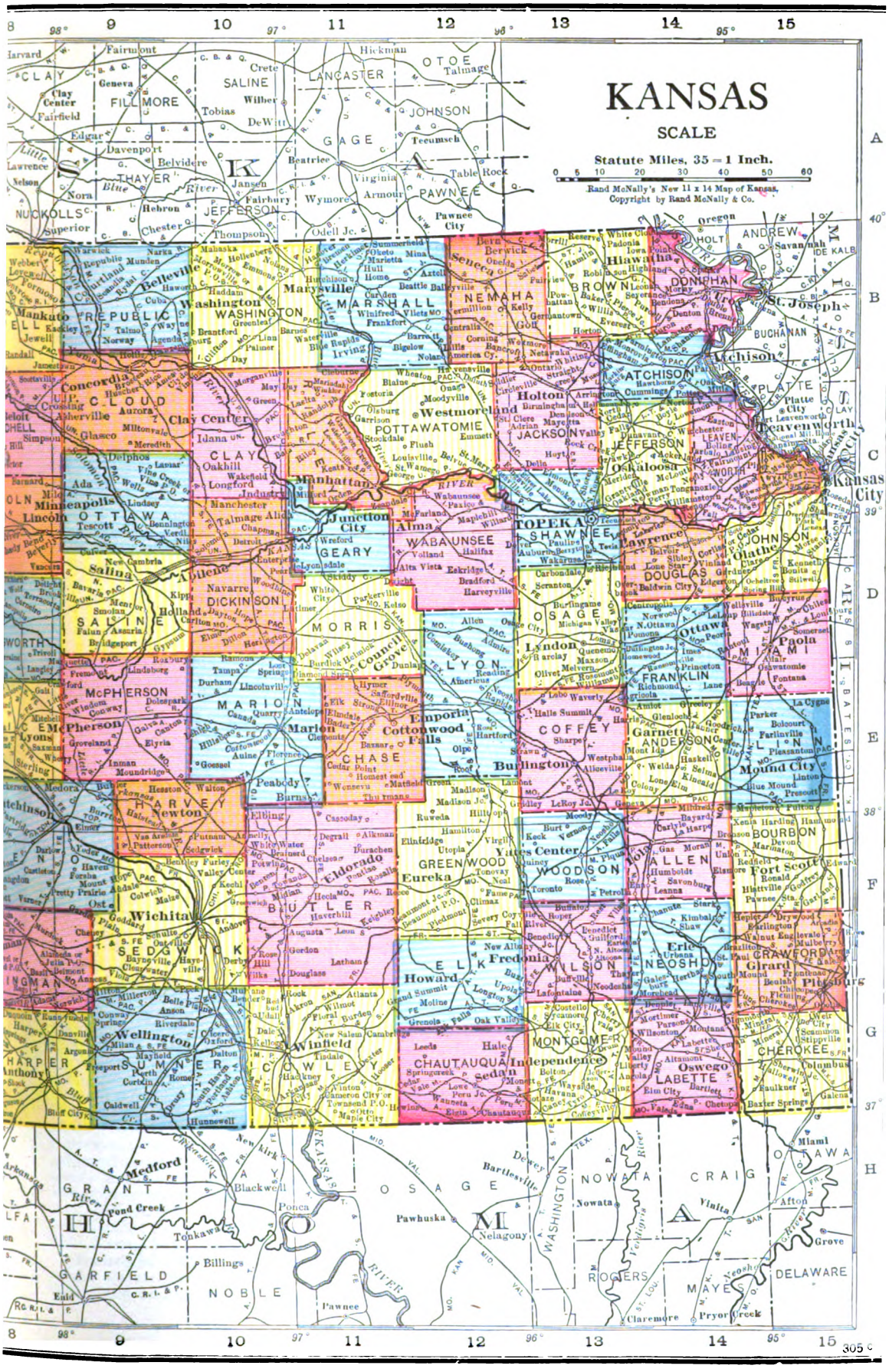
COUNTIES

Pop.		
23,515	Allen	F 14
13,264	Anderson	E 14
27,227	Atchison	C 14
9,203	Barber	G 7
28,028	Barton	E 7
25,032	Bourbon	F 15
10,684	Brown	B 13
20,788	Butler	F 11
7,154	Chase	E 11
11,236	Chautauqua	G 12
36,370	Cherokee	G 15
4,114	Cheyenne	B 1
4,290	Clark	G 5
14,902	Clay	C 10
19,316	Cloud	C 9
14,986	Coffey	E 13
4,608	Comanche	G 6
29,979	Cowley	G 11
60,289	Crawford	G 15
7,502	Decatur	B 4
25,339	Dickinson	D 10
14,544	Doniphan	B 14
25,130	Douglas	D 14
6,734	Edwards	F 6
10,035	Elk	G 12
13,197	Ellis	D 6
10,481	Ellsworth	D 8
6,016	Finney	E 3
13,152	Ford	F 5
22,103	Franklin	E 14
10,063	Geary	D 11
4,010	Gove	D 3
7,466	Graham	C 5
900	Grant	F 2
3,674	Gray	F 4
913	Greeley	D 1
14,500	Greenwood	F 12
2,253	Hamilton	E 1
13,316	Harper	G 8
18,663	Harvey	F 10
995	Haskell	F 3
3,165	Hodgeman	E 5
15,668	Jackson	C 13
15,769	Jefferson	C 14
17,165	Jewell	B 8
18,507	Johnson	D 15
2,316	Kearney	E 2
12,612	Kingman	G 8
6,464	Kiowa	G 6
31,014	Labette	G 14
2,120	Lane	D 4
40,625	Leavenworth	C 14
10,433	Lincoln	D 8
15,013	Linn	E 15
3,013	Logan	D 2
26,468	Lyon	E 12
21,233	McPherson	E 9
21,577	Marion	E 10
21,757	Marshall	B 11
5,276	Meade	G 4
18,676	Miami	D 15
13,731	Mitchell	C 8
49,824	Montgomery	G 13
11,810	Morris	D 11
1,729	Morton	G 1
18,309	Nemaha	B 13
23,050	Neosho	G 14
5,547	Ness	E 5
10,393	Norton	B 5
20,072	Osage	D 13
12,973	Osborne	C 7
11,605	Ottawa	C 9
8,651	Pawnee	E 6
13,220	Phillips	B 6
16,105	Pottawatomie	C 12
11,642	Pratt	G 7
5,702	Rawlins	B 2
10,448	Reno	F 8
16,915	Republic	B 9
14,437	Rice	E 8
16,518	Riley	C 11
10,596	Rooks	C 6
8,065	Rush	E 6
11,047	Russell	D 7
20,665	Saline	D 9
2,288	Scott	E 3
3,294	Sedgwick	F 9
64,498	Seward	G 3
64,661	Shawnee	D 13
4,873	Sheridan	C 4
4,043	Sherman	C 1
15,308	Smith	B 7
11,383	Stafford	E 7
824	Stanton	F 1
2,370	Stevens	G 2
28,027	Sumner	G 9
3,996	Thomas	C 2
4,623	Trego	D 5
11,904	Wabaunsee	D 12
2,090	Wallace	D 1
19,001	Washington	B 10
1,519	Wichita	D 2
20,067	Wilson	G 13
9,331	Wilodson	F 13
110,549	Wyandotte	C 15

Incorporated Cities, Towns, and Villages

4,267	Abilene	D 10
347	Agra	B 6
311	Allen	D 12
794	Alma	C 12
543	Almena	B 5
467	Alta Vista	D 12
691	Altamont	G 14
428	Alton	C 7
1,279	Altoona	F 13
462	Americus	D 12
296	Andale	F 9
2,435	Anthony	G 8
746	Arcadia	F 15
450	Argonia	G 9
7,775	Arkansas City	G 11
465	Arlington	F 8
1,792	Arma	F 15
904	Ashland	G 5
237	Assaria	D 9
16,735	Atchison	B 15
319	Atlanta	G 11
639	Attica	G 8
502	Atwood	B 3
1,378	Augusta	F 11
269	Aurora	C 9
710	Axtell	B 12
1,231	Baldwin	D 14
408	Barnard	C 8
454	Barnes	B 11
269	Bartlett	G 14
310	Bassett, Allen	F 14
1,343	Baxter Springs	G 15
478	Beattie	B 12
817	Belle Plaine	G 10
2,216	Belleville	B 10
3,240	Beloit	C 8
411	Belpre	F 6
239	Benedict	F 13
402	Bennington	C 10
206	Benton	F 10
334	Beverly	D 8
249	Bird City	B 1
636	Blue Mound	E 15
1,326	Blue Rapids	B 11
258	Bluff City	G 9
1,541	Bonner Springs	C 15
612	Bronson	F 14
261	Brookville	D 9
4	Bruce, Crawford	G 15
778	Bucklin	F 5
736	Buffalo	F 13
235	Bunkerhill	D 7
410	Burden	G 11
1,474	Burlingame	D 13
2,251	Burlington	E 13
417	Burns	E 11
723	Burr Oak	B 8
655	Burrton	E 9
222	Bushton	E 8
2,215	Caldwell	G 9
3,104	Caney	G 3
659	Canton	E 9
456	Carbondale	D 13
840	Cawker City	C 7
978	Cedarvale	G 12
596	Centralia	B 12
12,455	Chanute	F 14
746	Chapman	D 10
252	Chase	E 8
348	Chautauqua Springs, Chautauqua	G 12
662	Cheney	F 9
1,149	Cherokee	G 15
4,235	Cherryvale	G 13
1,899	Chetopa	H 14
559	Cimarron	F 3
269	Circleville	C 13
554	Claflin	E 7
3,742	Clay Center	C 10
173	Clayton	B 4
547	Clearwater	G 9
638	Clifton	B 10
1,211	Clyde	C 10
269	Coates	G 7
17,548	Coffeyville	H 13
767	Colby	C 2
1,088	Coldwater	G 6
504	Colony	E 14
3,500	Columbus	G 15
257	Colwich	F 9
5,229	Concordia	C 9
941	Conway Springs	G 9
105	Coolidge	E 1
419	Corning	B 12
921	Cottonwood Falls	E 12
2,405	Council Grove	D 10
441	Courtland	B 9
192	Coyville	F 13
475	Cuba	B 9
151	Cullison	F 7
356	Culver	D 9
395	Cunningham	F 8
773	Curransville, Crawford	F 15
343	De Soto	D 15
193	Dearing	G 13
212	Deerfield	F 2
879	Delphos	C 9
216	Denison	C 13
182	Denton	B 14
468	Dexter	G 11
272	Dighton	E 3
4,101	Dodge City	F 4
128	Doniphan	B 14
238	Dorrance	D 8
633	Douglass	G 11
1,552	Downs	C 7
320	Dunlap	E 12
283	Durham	E 10
268	Dwight	D 11
292	Easton	C 14
286	Edgerton	D 14
467	Edna	H 8
736	Effingham	B 13
2,710	Eldorado	F 11
653	Elk City	G 13
332	Elk Falls	G 12
1,032	Ellinwood	E 7
1,457	Ellis	D 6
1,982	Ellsworth	D 8
255	Elmdale	E 11
235	El Paso, Sedgwick	F 9
249	Elsmore	F 14
652	Elwood	B 15
9,622	Emporia	E 12
446	Englewood	G 5
778	Enterprise	D 10
1,202	Erie	F 14
337	Esbon	B 8
808	Eskridge	D 12
624	Eudora	D 14
2,261	Eureka	F 12
416	Everest	B 13
413	Fairview	B 13
334	Fall River	F 13
1,258	Florence	E 10
246	Fontana	E 15
205	Ford	F 5
412	Formosa	B 8
11,442	Fort Scott	F 15
469	Fowler	G 4
1,256	Frankfort	B 11
151	Frederick	E 8
3,473	Fredonia	F 13
108	Freeport	G 9
3,338	Frontenac	G 15
440	Fulton	F 15
5,926	Galena	G 15
204	Galesburg	G 14
347	Galva	E 9
3,016	Garden City	F 3
288	Garden Plain	F 9
514	Gardner	D 14
320	Garfield	E 6
1,999	Garnett	E 14
631	Gas	F 14
368	Gaylord	B 7
543	Geneseo	E 8
268	Geuda Springs	H 10
2,917	Girard	G 15
860	Glasco	C 9
506	Glen Elder	C 8
253	Goddard	F 9
343	Goff	B 13
1,742	Goodland	C 1
134	Gove	D 3
193	Grainfield	D 3
4,751	Great Bend	E 7
527	Greeley	E 14
291	Green	C 10
797	Greenleaf	B 10
1,298	Greensburg	F 6
585	Grenola	G 12
638	Gypsum	D 9
412	Haddam	B 10
1,040	Halstead	F 9
325	Hamilton	F 12
205	Hamlin	B 13
1,000	Hanover	B 11
1,458	Harper	G 8
678	Hartford	E 12
282	Harveyville	D 12
276	Havana	G 13
528	Haven	F 9
335	Havensville	C 12
565	Haviland	F 6
2,339	Hays	D 6
331	Hazelton	G 7
259	Hepler	F 14
4,255	Herington	D 10
279	Herndon	B 3
2,878	Hiawatha	B 14
763	Highland	B 14
647	Hill City	C 5
1,223	Hillsboro	E 10
2,089	Hoisington	E 7
2,666	Holton	C 13
438	Holyrood	D 8
570	Hope	D 10
135	Horace	E 1
3,839	Horton	B 13
1,080	Howard	G 12
532	Hoxie	C 3
251	Hudson	E 7
308	Hugoton	G 2
2,131	Humboldt	F 14
187	Hunnewell	H 10
200	Huron	B 14
20,753	Hutchinson	F 8
14,506	Independence	G 13
478	Inman	E 9
11,068	Iola	F 14
388	Irving	B 11
245	Isabel	G 7
228	Iuka	F 7
462	Jamestown	C 9
227	Jennings	B 4
391	Jetmore	E 5
839	Jewell	C 8
5,798	Junction City	D 11
658	Kanopolis	D 8
99,437	Kansas City	C 15
608	Kensington	B 7
402	Kincaid	E 14
2,255	Kingman	F 8
1,794	Kinsley	F 6
954	Kiowa	H 7
584	Kirwin	B 6
767	La Crosse	D 6
997	Lacygne	E 15
1,182	Laharpe	F 14
337	Lakin	F 2
220	Lancaster	B 14
323	Lane	E 14
2,900	Larned	E 6
287	Latham	F 11
13,324	Lawrence	D 14
19,363	Leavenworth	C 15
695	Lebanon	B 7
535	Lebo	E 13
414	Lecompton	D 14
366	Lehigh	E 10
423	Lenexa	D 15
447	Lenora	B 4
385	Leon	F 11
374	Leonardville	C 11
273	Leotl	E 2
773	Le Roy	E 13
412	Lewis	F 6
2,314	Liberal	G 3
283	Liberty	G 13
1,142	Lincoln	D 8
1,953	Lindsborg	E 9
373	Linwood	C 14
625	Little River	E 9
670	Logan	B 5
225	Long Island	B 6
590	Longton	G 12
261	Lost Springs	D 10
621	Louisburg	D 15
231	Louisville	C 12
658	Lucas	D 7
469	Luray	C 7
808	Lyndon	D 13
2,130	Lyons	E 8
371	McCracken	E 5
662	McCune	G 14
438	McFarland	C 12
580	McLouth	C 14
4,057	McPherson	E 9
753	Macksville	F 7
629	Madison	E 12
201	Mahaska	B 10
288	Manchester	C 10
6,816	Manhattan	C 11
1,054	Mankato	B 8
266	Maple Hill	C 12
230	Mapleton	E 15
1,951	Marion	E 11
751	Marquette	E 9
2,166	Marysville	B 11
279	Mayetta	C 13
764	Meade	G 4
1,304	Medicine Lodge	G 7
415	Melvern	E 13
471	Meriden	C 13
912	Miltonvale	C 9
1,462	Mineral	G 15
1,922	Minneapolis	C 9
448	Minneola	G 5
910	Moline	G 12
685	Moran	F 14
252	Morganville	C 10
225	Morland	C 5
533	Morrill	B 13
718	Mound City	E 15
694	Mound Ridge	E 9
888	Mound Valley	G 13
516	Mount Hope	F 9
1,662	Mulberry	F 15
441	Mullinville	F 6
1,024	Mulvane	G 10
244	Munden	D 9
491	Muscotah	C 13
278	Narka	B 9
561	Natoma	C 7
3,011	Neodesha	G 13
536	Neosho Falls	F 13
321	Neosho Rapids	E 12
675	Ness City	E 5
327	Netawaka	B 13
238	New Albany	F 12
7,62.)	Newton	F 10
1,167	Nickerson	E 8
313	Niotaze	G 13
482	Norcatur	B 4
1,513	Norton	B 5
661	Nortonville	C 14
432	Norwich	G 9
1,651	Oakland	C 14
542	Oakley	C 3
1,019	Oberlin	B 3
275	Ogden	C 11
288	Oketo	B 11
3,335	Olathe	D 15
245	Olpe	E 12


COLORADO
NEBRASKA
TEXAS
OKLAHOMA
CHASE
Imperial
Hayes Center
HAYES
Stockville
FRONTIER
Elwood
GOSPER
PHELPS
KEARNEY
Kenesaw
Hastings
ADAMS
DUNDY
Trenton
Culbertson
McCook
Republican
REDWILLOW
HITCHCOCK
Benkelman
Oxford
FURNAS
Beaver City
HARLAN
Orleans
Holdrege
Minden
Wilcox
FRANKLIN
Bloomington
WEBSTER
Alma
Red Cloud
CHEYENNE
Saint Francis
Bird City
Wheeler
Jaqua
Oak Ranch
Beardsley
McDonald
Blakeman
RAWLINS
Atwood
Ludell
Linda
Chardon
Tully
Herndon
Cedar Bluffs
Traer
Oberlin
Norcatur
DECATUR
Kanona
Bassettville
Lund
Dresden
Allison
Devizes
Almena
Norton
Oronoque
Rockwell
Calvert
NORTON
Dellvale
Densmore
Lenora
Edmond
Woodruff
Long Island
PHILLIPS
Prairie View
Stuttgart
Phillipsburg
Logan
Speed
Gretna
Agra
Glade
Kirwin
Reamsville
Kensington
Athol
Smith Center
Lebanon
SMITH
Bellaire
Claudell
Gaylord
Harlan
Neville
Warren
Charlotte
Rhine
Grace
Northfield
SHERMAN
Ruleton
Edson
Goodland
Kanorado
Lois
Quickville
Rexford
Colby
Levant
Gem
Halford
THOMAS
Menlo
Brewster
Renner
Fairland
Kingery
Mingo
Selden
Lucerne
SHERIDAN
Studley
Hoxie
Seguin
Guy
Orange
Angelus
Saline
Gradan
Penokee
Nicodemus
Bogue
Morland
Hill City
GRAHAM
St. Peter
Callison
Togo
Stockton
Woodston
Alcona
Webster
ROOKS
Damar
Palco
Plainville
Zurich
Codell
Alton
Portis
Osborne
OSBORNE
Covert
Twin Creek
Natoma
Cheyenne
Dale
Cutler
Sexton
Turkey Creek
Wallace
WALLACE
Sharon Springs
Weskan
Chance
Dinas
Stockholm
Ladder
Winona
Page
Monument
Oakley
Caplinus
Grinnell
Grainfield
Park
Quinter
Gill
LOGAN
Gove
Cabbell
Orion
Russell Springs
Bowie
Elkader
Edith
Ben Allen
Keystone
Poe
Coin
Hackberry
Jericho
Catalpa
Jerome
Tweed
Alanthus
Valley
Smoky Hill
Collyer
Wakeeney
Yoder
Ogallah
Ball
Banner
Bosna
TREGO
Yocemento
Wiles
Mendota
Hyacinth
Turkville
Finch
Ellis
ELLIS
Catharine
Hays
Walker
Antonino
Munjor
Schoenchen
Pfeifer
Paradise
Fairport
Waldo
Luray
Lucas
Fay
Saline
Success
Gorham
RUSSELL
Victoria
Bunkerhill
Hilltop
Hawley
Millberger
Dubuque
Sidney
Youngsville
Sunnyside
Locust
Thelma
Carwood
GREELEY
Hurt
Wonna
WICHITA
Kanada
Horace
Tribune
Bay
Selkirk
Leoti
Marienthal
Halcyon
Pence
Farnsworth
Pendennis
Healy
Shields
Manning
Kelso
Modoc
Scott
SCOTT
Grigsby
Shallow Water
Friend Sta.
Dighton
Amy
LANE
Alamota
Lydia
Arnold
Brownell
Utica
Ransom
McCracken
Ness City
NESS
Laird
Beeler
Manteno
Nonchalanta
Division
Saunders
Fingal
Liebenthal
Hampton
Radle
La Crosse
Bison
Otis
Galatia
Olmitz
Bord
Hoisington
Raleigh
RUSH
Alexander
Nekoma
Rush Center
Timken
Shaffer
Albert
BARTON
Heizer
Great Bend
Ellinwood
Flegny
Stowell
Federal
Conquest
Oanica
HAMILTON
Coolidge
Kearny
KEARNY
Friend
Tennie
Terryton
Imperial
Ravanna
Alfalfa
Eminence
FINNEY
Kalvesta
Essex
Canyon
Kidderville
Hodgeman
HODGEMAN
Jetmore
Olney or Hanston P.O.
Fullerton
Harmony
Griffith
Vaughn
PAWNEE
Ash Valley
Rozel
Frisell
Burdett
Larned
Rock
Radium
Seward
Hudson
STAFFORD
St. John
Syracuse
Mayline
Irene
Kendall
Menno
Sutton
Hatton
Deerfield
Lakin
Arkansas
Hartland
Garden City
Mansfield
Charleston
Pierceville
Ingalls
Cimarron
Dodge City
GRAY
Wright
Fort Dodge
Spearville
Bellefont
Offerle
Ardell
Kinsley
EDWARDS
Belpre
Mallby
Marksville
Prattsburg
Natrona
Pillsbury
Fisher
Johnson
STANTON
Roanoke
Warrendale
Example
Jean
GRANT
Gognac
New Ulysses
Lawson
HASKELL
Post
Ensign
Sayer
Haggard
Montezuma
Cave
Santa Fe
Sublette
Satanta
Harwood
Chester
Jumbo
Wilburn
Bloom
Fordock
Mullinville
Greensburg
KIOWA
Kingsdown
Belvidere
Croft
Pratt
PRATT
Springvale
Coats
Sawyer
Lawadale
Preston
Strickler
Haviland
Wilford
Cullison
Richfield
Moscow
Ethelton
Woodsdale
Zella
Hugoton
Ematon
Point Rocks
Rolla
Elkhart
Cess
Niagara
Lafayette
MORTON
STEVENS
SEWARD
Arkalon
Liberal
Missler
Fowler
Meade
MEADE
Plains
Odee
Lakeland
Cleaverdale
Minneola
Lexington
CLARK
Ashland
Englewood
Wilmore
Coldwater
Protection
COMANCHE
Deerhead
BARBER
Eagle
Lasswell
Sun City
Isabel
Lake City
Medicine Lodge
Hazelton
Kiowa
Hardtner
Salt
Fork
Cimarron
River
Beaver
Creek
Guymon
Beaver
HARPER
Buffalo
Alva
WOODS
Avard
Cherokee
WOODWARD
Woodward
SHERMAN
HANSFORD
OCHILTREE
Ochiltree
LIPSCOMB
ELLIS
Longitude West from Greenwich.
102°
101°
100°
99°
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
40°
39°
38°
37°


KANSAS
SCALE
Statute Miles, 35 = 1 Inch.
0 5 10 20 30 40 50 60
Rand McNally's New 11 x 14 Map of Kansas.
Copyright by Rand McNally & Co.
Nebraska
Missouri
Oklahoma
Colorado
Atchison
Leavenworth
Kansas City
St. Joseph
Topeka
Lawrence
Manhattan
Junction City
Abilene
Salina
Hutchinson
McPherson
Emporia
Wichita
Newton
Arkansas City
Winfield
Chanute
Coffeyville
Parsons
Pittsburg
Fort Scott
Independence
Oswego
Liberal
Garden City
Dodge City
Great Bend
Hays
Russell
Ellsworth
Pratt
Medicine Lodge
Kingman
Hutchinson
Ponca City
Pawhuska
Nelagony
Bartlesville
Miami
Afton
Grove
Claremore
Pryor Creek
Enid
Blackwell
Medford
Tonkawa
Billings
Pawnee
Arkansas River
Cimarron River
Neosho River
Verdigris River
Walnut River
Little Arkansas River
Smoky Hill River
Republican River
Solomon River
Saline River
Big Blue River
Missouri River
Marais des Cygnes River
Pottawatomie
Jackson
Jefferson
Osage
Douglas
Franklin
Miami
Linn
Bourbon
Crawford
Cherokee
Labette
Montgomery
Chautauqua
Elk
Greenwood
Woodson
Allen
Neosho
Wilson
Coffey
Anderson
Lyon
Chase
Morris
Marion
Harvey
Sedgwick
Butler
Cowley
Sumner
Harper
Kingman
Reno
Rice
Barton
Ellsworth
Saline
Ottawa
Dickinson
Geary
Wabaunsee
Shawnee
Osage
Marshall
Nemaha
Brown
Doniphan
Atchison
Platte
Buchanan
Andrew
Holt
Clay
Riley
Pottawatomie
Jackson
Jefferson
Douglas
Johnson

Pop.		
817	Onaga	C 12
243	Oneida	B 12
2,823	Osage City	D 13
2,870	Osawatomie	E 15
1,601	Osborne	C 7
808	Oskaloosa	C 14
2,258	Oswego	G 14
9,127	Ottawa	D 14
641	Oxford	G 10
268	Palco	C 6
3,392	Paola	D 15
394	Parker	E 15
172	Parkerville	D 11
15,468	Parsons	G 14
231	Partridge	E 8
458	Pawnee Rock	E 7
1,401	Peabody	E 10
464	Perry	C 14
541	Peru	G 12
1,237	Phillipsburg	B 6
17,832	Pittsburg	G 15
1,008	Plainville	C 6
1,516	Pleasanton	E 15
467	Pomona	D 14
321	Portis	C 7
251	Potwin	F 10
294	Powhatan	B 13
180	Prairie View	B 6
3,797	Pratt	F 7
228	Prescott	E 15
278	Preston	F 7
379	Pretty Prairie	F 9
721	Protection	G 6
630	Quenemo	D 13
289	Quinter	C 4
259	Ramona	E 10
338	Randall	B 8
363	Randolph	C 11
201	Ransom	D 5
350	Reading	E 12
255	Redfield	F 15
427	Republic	B 9
53	Richfield	G 1
326	Riley	C 11
508	Robinson	B 13
7,498	Rosedale	C 15
396	Roseland, Cherokee	G 15
647	Rossville	C 12
1,601	Russell	D 7
115	Russell Springs	D 3
1,856	Sabetha	B 13
12,098	Salina	D 9
221	Savonburg	F 14
2,364	Scammon	G 15
621	Scandia	B 9
772	Scott	E 3
236	Scottsville	C 8
717	Scranton	D 13
1,454	Sedan	G 12
673	Sedgwick	F 10
308	Selden	C 4
1,961	Seneca	B 12
334	Severance	B 14
635	Severy	F 12
308	Sharon	G 7
645	Sharon Springs	D 1
202	Silver Lake	C 13
290	Simpson	C 8
1,405	Smith Center	B 7
327	Soldier	C 12
1,110	Solomon	D 10
433	South Haven	G 10
387	South Hutchinson, Reno	F 8
576	Spearville	F 5
252	Splvey	G 8
540	Springhill	D 15
498	St. Francis	B 1
1,637	St. John	F 7
1,031	St. Marys	C 12
906	St. Paul	F 14
1,728	Stafford	F 7
208	Stark	F 14
2,214	Sterling	E 8
1,291	Stockton	C 6
858	Strong	E 11
554	Summerfield	B 12
555	Sylvan Grove	D 8
593	Sylvia	F 8
900	Syracuse	F 1
210	Tampa	E 10
501	Tescott	C 9
512	Thayer	G 13
954	Tonganoxie	C 14
48,726	Topeka	D 13
694	Toronto	F 13
320	Towanda	F 11
159	Tribune	E 1
1,109	Troy	B 14
567	Turon	F 8
308	Tyro	G 13
323	Udall	G 10
256	Uniontown	F 14
356	Valley Center	F 10
1,244	Valley Falls	C 13
295	Vermillion	B 12
181	Vining	C 10
163	Viola	F 9
702	Wakeeney	D 5
520	Wakefield	C 10
262	Waldron	G 8
620	Walnut	G 15
207	Walton	E 10
1,572	Wamego	C 12
1,405	Washington	B 10
704	Waterville	B 11
709	Wathena	B 15
689	Waverly	E 13
2,159	Weir	G 15
5,642	Wellington	G 9
735	Wellsville	D 14
323	West Plains	G 4
469	Westmoreland	C 12
544	Wetmore	B 13
608	White City	D 11
563	White Cloud	B 14
485	Whitewater	F 10
390	Whiting	B 13
70,722	Wichita	F 9
390	Williamsburg	E 13
210	Willis	B 13
1,026	Wilson	D 8
457	Winchester	C 14
193	Windom	E 9
6,138	Winfield	G 11
302	Woodbine	D 10
367	Woodston	C 6
2,199	Yates Center	F 13

NUMBERS AND VALUES OF LIVE STOCK.

	Number	Value
Horses	1,048,733	$125,847,960
Mules and asses	271,254	36,619,290
Milk cows	580,213	43,515,975
Other cattle	2,337,592	116,879,600
Sheep	180,877	1,989,647
Swine	1,356,703	27,812,411
Total value of livestock		$352,664,883

Kansas ranks high in the production of fruits, the horticultural products for the year 1916 aggregated a value of $2,251,434. The State is also a leading one in the growth of nursery stock.

Timber.— The forest tracts of the State are of limited extent, mostly confined to the intervals of the larger streams. In these are found elm, oak, black walnut, hickory, sycamore, cottonwood, catalpa and basswood, none of them in sufficient quantity to supply building or manufacturing material, but affording a considerable amount of fuel. During the past year most of the walnut trees were utilized by the government in the manufacture of gunstocks for the use of the American army.

Animals.— Formerly the Kansas plains swarmed with buffalo, elk, deer and antelope, making a vast hunting-ground. All of these have disappeared with the advance of civilization, and are now found only in parks.

The prairie chicken, quail, wild turkey, wild goose, squirrel and other small game, together with many varieties of birds, still are to be found.

Manufactures.— Kansas is an agricultural rather than a manufacturing State. The natural resources for manufacturing are limited, there being no timber lands of consequence, and no deposits of iron. The principal manufacturing is represented by the flour milling and meat packing industries. New establishments such as brick plants, foundries, car shops and glass factories, have recently been attracted to the State by reason of the abundant supply of natural gas for fuel. The government census report for the year 1914 gives this summary for Kansas: Number of manufacturing establishments, 3,136; value of products, $323,234,000; capital, $163,790,000; salaried employees, 7,526; salaries paid, $9,013,000; wage earners, 41,259; wages, $25,970,000; cost of materials, $261,148,000.

Banking.— There are 1,043 State and private banks and trust companies in Kansas, with deposits amounting to $266,290,140; and 236 national banks, with deposits amounting to $179,700,000; total deposits, $445,990,140.

Wealth and Property Values.— With a per capita wealth of $2,652, Kansas ranks eleventh in the list of States, coming between Illinois and New York. The aggregate value of all property in Kansas is $4,581,091,918, inclusive of property exempt from taxation. The values of property as assessed for taxation are: Lands and improvements, $1,447,882,799; lots and improvements, $457,924,219; personal property, $635,283,766; public service corporations, $439,803,853; total taxable wealth, $2,980,894,637. Kansas has no State bonded indebtedness.

Railroads.— The total mileage of railway tracks operated in Kansas is 9,572. The prominent lines and systems are Atchison, Topeka and Santa Fe, Union Pacific, Chicago, Rock Island and Pacific, Missouri Pacific, Saint Louis and San Francisco, Missouri, Kansas and Texas. The gross earnings of all Kansas railroads for the year 1916 were $87,885,658. No statistics of the roads are available for the period in which they have been under Federal control.

Education.— The higher institutions of learning maintained by the State are the University of Kansas, State Agricultural College, Emporia Normal School, Hays Normal School, Pittsburg Normal School and the Kansas School of Mines, Weir City. These are managed by a single board of administration, which also has charge of the schools for the blind and the deaf. The public schools proper are under the direction of a State Superintendent of Public Instruction and a State Board of Education. In 1897 the legislature prescribed State uniformity of school books, fixed the subjects and established prices. In 1913 provision was made for the State publication and distribution of such books, and a State School Book Commission was created. It is estimated that 1,000,000 school textbooks were printed by the State during the year 1917. There are 8,636 school districts in Kansas; school population, 507,601; enrollment, 394,823; average attendance, 308,892; number of teachers employed, 15,009; annual cost of public schools, $12,573,540; value of public school buildings, $27,927,740. The percentage of illiteracy in the State, 2.2, is smaller than that in any other State in the Union excepting Iowa, 1.7, Nebraska 1.9 and Oregon 1.9.

The colleges in the State are Baker University, Baldwin; Bethany, Lindsborg; Bethel, Newton; Campbell, Holton; Cooper, Sterling; Emporia, Emporia; Fairmount, Wichita; Friends, Wichita; Highland University, Highland; Kansas City University, Kansas City, Kansas; Kansas Wesleyan, Salina; Midland, Atchison; Ottawa University, Ottawa; Sisters of Bethany, Topeka; Southwestern, Winfield; State Agricultural, Manhattan; Saint Benedict's, Atchison; Saint John's, Salina; Saint Mary's, Saint Marys; University of Kansas, Lawrence; Washburn, Topeka.

Religion.—A careful estimate shows the religious population to be 475,000. All of the denominations are represented, the Methodist being the largest numerically, followed in order by the Roman Catholic, Baptist, Lutheran, Disciple, Presbyterian, United Brethern, Congregational, Friends, African M. E. and Evangelical Association. The moral standard of the population is very high, Kansas being one of the first States to adopt an amendment to its constitution prohibiting the manufacture and sale of intoxicating liquors. The State has also taken the lead in the adoption of many laws for safeguarding the public health and for the promotion of civic betterment.

Charitable and Penal Institutions.— The State institutions of this class and the number of inmates of each are: Insane Hospital, Topeka (1,550); Insane Hospital, Osawatomie (1,363); Insane Hospital, Larned (102); Epileptic Hospital, Parsons (523); Home for Feeble-Minded Children, Winfield (627); Sanatorium for Tuberculosis, Norton (23); Orphans' Home, Atchison (187); Soldiers'

Home, Dodge City (650); Deaf and Dumb School, Olathe (267); Blind Asylum, Kansas City (85); Mother Bickerdyke Home for Soldiers' Widows, Ellsworth (87); State Penitentiary, Lansing (841); Industrial Reformatory, Hutchinson (420); Industrial School (girls), Beloit (152); Reform School (boys), Topeka (251). The Federal government maintains a military prison and a branch of the National Soldiers' Home at Leavenworth.

Newspapers and Libraries.— Kansas has 727 newspapers, inclusive of 45 dailies, 565 weeklies, 2 semi-weeklies, 98 monthlies, 9 semi-monthlies, 8 quarterlies. Of public, institutional and college libraries there are 193, with a total of 1,244,794 volumes. Incomplete reports from 6,638 public school libraries increase this total by 669,821 volumes. There are 58 Carnegie-built libraries in the State, valued at $957,700, and 32 publicly-built libraries, valued at $1,076,350; total valuation of these buildings, $2,034,050.

Early History.—As early as 1541 Francisco de Coronado, commanding a Spanish expedition, marched across the plains which are now a part of the State, and there are evidences of French and Spanish adventures in subsequent years. French fur traders from Louisiana and Canada were in the country in 1700. In 1719 Du Tissenet, a French explorer, visited the valley of the Missouri, and he was followed by Spaniards from Santa Fe, who came to the present site of Leavenworth, where they were destroyed in a battle with Indians, this being the last attempt at Spanish occupation of the territory.

The Lewis and Clark expedition, planned by President Jefferson, reached Kansas in June 1804, and, two years later, the expedition commanded by Zebulon Montgomery Pike, who gave his name to "Pike's Peak," crossed the territory from the Missouri River to the Rocky Mountains. The expedition of Maj. Stephen H. Long was made in 1819, and in 1824 was established the "Santa Fe Trail," the famous highway of Kansas, extending 400 miles directly across the Territory, and from Independence, Mo., to Santa Fe, a distance of 780 miles. Col. John C. Fremont made his first expedition across the plains in 1842, blazing the way for an extensive overland travel to Oregon, California and Mexico.

The territory forming the present State of Kansas was a part of the Louisiana Purchase of 1803, except a fraction in the southwest corner acquired from Texas in 1850. Following the several expeditions referred to, and the opening of the Santa Fe trail, Kansas became Indian Territory, and remained such from 1830 to 1854. Within this period the outposts of civilization were being extended from the Mississippi River. The Indians of Missouri and other Mississippi Valley States were concentrated and combined with the tribes already occupying the country west of the Missouri River. These included the Osage, Shawnee, Pawnee, Delaware, Kicapoo and Kansas tribes, to which were added the Cherokee and other tribes from the States of the south, the Ottawas, Pottawatomies, Wyandottes and others from Ohio, Michigan and Indiana. Occupation of the country by white settlers was fraught with peril and hardship, and only accomplished by marvelous heroism, perserverance and endurance. To aid in the work of civilization missions were established on the frontier, and military posts located at Fort Leavenworth, Fort Scott and Fort Riley. These missions and posts are rich in historical and romantic incidents.

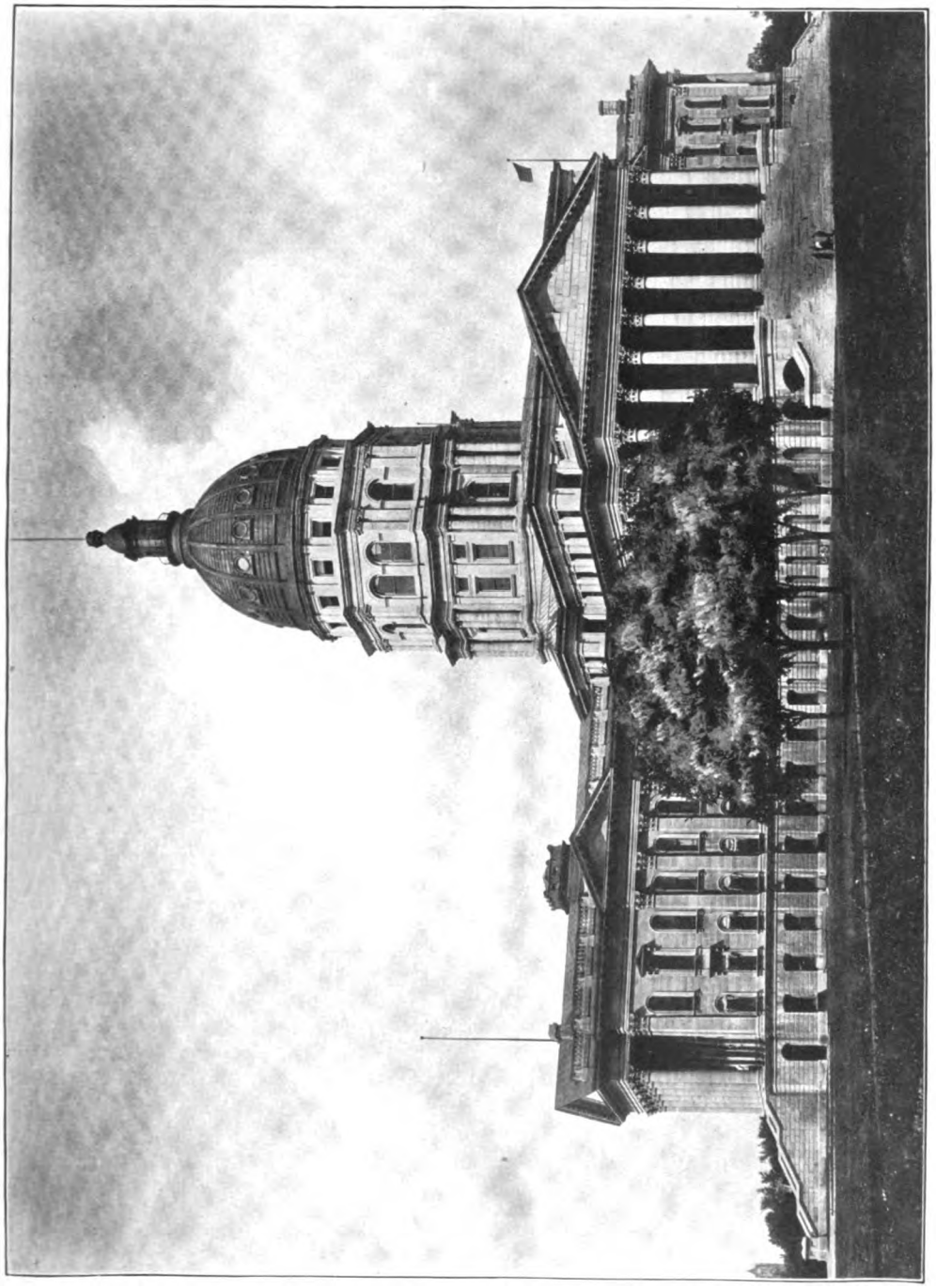
Territorial Days.— The admission of Kansas as an organized Territory dates from 30 May 1854, when President Pierce signed the Kansas-Nebraska Act. This brought on the political troubles of Kansas, and later, as a result of the slavery agitation, precipitated the great armed conflict between the North and the South in 1861–65. It was on Kansas soil that the first battle was fought for the freedom of the negro, and it was Kansas that developed the heroic figure of John Brown, who struck hard for human liberty, and of whom a local poet, Eugene F. Ware, pronounced this epitaph:

"JOHN BROWN OF KANSAS:
HE DARED BEGIN;
HE LOST,
BUT LOSING, WON."

From the time Congress took the first step for the admission of Kansas, with or without slavery, the Territory became the scene of contention, pillage and bloodshed. The pro-slavery men of Missouri endeavored to gain control of the Territory in 1854, and established the first city, Leavenworth. Soon afterward an anti-slavery colony from Massachusetts settled at Lawrence. No more bitter factions ever struggled for supremacy on this continent.

Andrew H. Reeder, of Pennsylvania, was appointed to be the first governor of the Territory. At the first contest for territorial delegate to Congress the slavery men of Missouri crossed the river and participated in the election, the candidate of the pro-slavery party being successful by reason of these illegal votes. The Free-Soilers protested and held indignation meetings at Lawrence and other points. At the election in the spring of 1855 for representatives to the legislature, the Missourians repeated the same tactics. When the legislature met at Pawnee the Pro-Slavery members were in the majority, and controlled the proceedings, even going to the extent of driving out the Free-Soil members and changing the seat of government.

The Free-Soil party repudiated the acts of the legislature and refused to abide by them. Governor Reeder was removed from office and succeeded by Wilson Shannon, of Ohio. John W. Whitfield was elected delegate to Congress by the Pro-Slavery party, and ex-Governor Reeder chosen to the same position by the opposition, but Congress refused to give either delegate a seat. A Free-Soil constitution was adopted in December 1855, under which Charles Robinson was elected governor, but the election was repudiated by President Pierce, who had recognized the "bogus" legislature. The Free-Soil legislature ignored the action of President Pierce, and, to meet this and other menacing circumstances, the military forces of the United States government were placed in command of Governor Shannon, and Governor Robinson and Congressman-elect Reeder were indicted for high treason. The Pro-Slavery party received large accessions from Georgia, Alabama and South Carolina. In the troubles resulting from this conflict of authority the Emigrant Aid



Capitol at Topeka

Society Hotel and the *Herald of Freedom* and *Kansas Free State* printing offices at Lawrence were destroyed, and the town of Osawatomie — the home of John Brown — was sacked and burned.

Struggles for Statehood.—A bill for the admission of Kansas as a State was passed by the Lower House of Congress in June 1856, but was defeated in the Senate on account of the recognition it gave to the Free-soil Constitution. A meeting of the Free-soil legislature in Topeka was dispersed by United States troops acting under orders from President Pierce. By this time the interest in the Kansas struggle became general throughout the United States. The suppression of slavery became a national instead of a State issue. While Congress debated and legislated, the Pro-slavery and Free-State factions continued to war against each other for possession of the Territory and control of the law-making machinery. Conflicting constitutions were adopted, rival legislatures elected, and civil government overthrown. Public meetings were held in all parts of the North to lend encouragement to the movement for making Kansas a free State. Similar sympathy and help came to the Pro-slavery party from the States of the South. Horace Greeley and Abraham Lincoln visited the Territory and made speeches in opposition to the further extension of slavery on American soil. Governor Shannon was removed from office, and the several governors appointed to succeed him found the duties of the position so dangerous that they resigned in rapid succession.

After numerous battles, elections and vicissitudes a constitutional convention was called to meet at Wyandotte 5 July 1859. It was composed of 35 Free-State and 17 Pro-slavery delegates, who were now known as Republicans and Democrats, respectively. Under the constitution adopted by this convention slavery was prohibited and Kansas admitted as a State 29 Jan. 1861. Although the act of admission was signed by President Buchanan, Kansas was by association and sentiment Abraham Lincoln's State. The seat of government was located at Topeka. At the election held in December 1859, under the Wyandotte constitution, Charles Robinson was chosen to be the first governor of the State, and Martin F. Conway the first representative in Congress. When the first State legislature assembled at Topeka in March 1861, James H. Lane and Samuel C. Pomeroy were elected the first two United States senators from the new State.

In the Civil War which followed the inauguration of President Lincoln in 1861, Kansas showed its loyalty to the Union by furnishing 20,000 trained soldiers out of a total population of but little more than 100,000 — a number greatly in excess of her quota, none of them drafted, and in proportion exceeding the enlistments from any other State. A large part of this force was employed in defending the borders of the State from invasion by southern troops, Indians and guerrillas. During one of these border raids a force of 400 men under command of Quantrell invaded Lawrence, burning and pillaging the town and killing 150 defenseless citizens. The war and the troubles with the Indians, together with a visitation of drought in 1860, greatly retarded the growth of Kansas, but when these obstacles were overcome an era of progress and development set in which has never since abated. The splendid soil and auspicious climate and the general adaptability of the State to farming and stock-raising purposes have attracted thousands of settlers to the State, and the advancement in all lines has been rapid, substantial and permanent.

LIST OF GOVERNORS.

TERRITORIAL

Andrew H. Reeder		1854–55
Wilson Shannon		1855–56
John W. Geary		1856–57
Robert J. Walker		1857–
James W. Denver		1857–58
Samuel Medary		1858–60

STATE

Charles Robinson	Republican	1861–63
Thomas Carney	"	1863–65
Samuel J. Crawford	"	1865–68
Nehemiah Green	"	1868–69
James M. Harvey	"	1869–73
Thomas A. Osborn	"	1873–77
George T. Anthony	"	1877–79
John P. St. John	"	1879–83
George W. Glick	Democrat	1883–85
John A. Martin	Republican	1885–89
Lyman U. Humphrey	"	1889–93
Lorenzo D. Lewelling	Populist-Democrat	1893–95
Edmund N. Morrill	Republican	1895–97
John W. Leedy	Populist-Democrat	1897–99
William E. Stanley	Republican	1899–1903
J. W. Bailey	"	1903–05
Edward W. Hoch	"	1905–09
Walter R. Stubbs	"	1909–13
George W. Hodges	Democrat	1913–15
Arthur Capper	Republican	1915–19
Henry Allen	"	1919–

For limited periods during the official interruptions incident to the organization of the Territory the following persons served terms as acting governor: Daniel Woodson, Frederick P. Stanton, James W. Denver, Hugh S. Walsh, George M. Beebe.

United States Senators.— James H. Lane (1861–66), Samuel C. Pomeroy (1861–73), Edmund G. Ross (1866–71), Alexander Caldwell (1871–73), Robert Crozier (1873–74), James M. Harvey (1874–77), John J. Ingalls (1873–91), Preston B. Plumb (1877–91), William A. Peffer (1891–97), Bishop W. Perkins (1892–93), John Martin (1893–95), Lucien Baker (1895–1901), William A. Harris (1897–1903), Joseph R. Burton (1901–06), Chester I. Long (1903–09), Alfred W. Benson (1906–07), Charles Curtis (1907–13), Joseph L. Bristow (1909–15), William H. Thompson (1913–19), Charles Curtis (1915—), Arthur Capper (1919—).

State Government.— The State legislature consists of 40 senators and 125 representatives. Sessions are held biennially in odd-numbered years. Political complexion of the legislature of 1917: Senate, 31 Republicans, 9 Democrats. House, 86 Republicans, 37 Democrats, 2 Socialists. The elective State officers include governor, lieutenant-governor, secretary of state, auditor, treasurer, attorney-general, state superintendent of public instruction, commissioner of insurance, state printer and seven justices of the Supreme Court. Supreme Court justices are elected for a term of six years, and other State officers for two years. United States senators are chosen by the primary election method. In 1917 Kansas adopted the State manager plan of governing the various State institutions and the experiment has been uniformly successful. Kansas is divided into

eight congressional districts, of which six are now filled by Democrats and two by Republicans. At the November 1918 election the Republicans gained control of seven congressional districts, leaving one district in control of the Democrats. At the general election of 1914 Kansas women were given the right of unrestricted suffrage, the vote on the proposition being 175,246 for and 159,197 against. In nearly every county in the State women have been elected to county, municipal and school offices.

National Defense.—The State of Kansas furnished a total of 82,000 soldiers, sailors and marines during the progress of the great World War, including National Guard units, enlistments in the regular army and men drafted for the service. A record equal to that of any other State was made in all of the miscellaneous activities connected with the war. One of the largest cantonments in the United States was maintained by the government at Camp Funston, Kansas, adjacent to Fort Riley.

Every demand made upon the State in the form of popular subscriptions for the support of the war and the relief and comfort of the military and naval forces was promptly met, and in amounts exceeding the apportionment, the investment subscriptions showing a percentage of 120 plus. The principal subscriptions are comprised in the following table:

	Quota	Subscription
First Liberty loan	$11,108,750	$13,967,250
Second Liberty loan	27,840,000	30,104,500
Third Liberty loan	30,301,900	47,390,700
Fourth Liberty loan	67,413,900	72,807,100
Total	$136,664,550	$164,269,550
First Red Cross drive	800,000	2,058,000
Second Red Cross drive	1,854,000	2,829,107
First Y. M. C. A. drive	75,000	76,000
Second Y. M. C. A. drive	525,000	675,000
War Savings stamps	37,000,000	37,000,000
United war work	2,850,000	2,976,000
Miscellaneous	500,000	500,000
Grand total	$180,268,550	$210,383,657

Population.—Statistics of 1855 gave Kansas a population of 8,501; this increased in 1860 to 107,206; in 1870 to 364,399; in 1880 to 396,096; in 1890 to 1,427,096; in 1900 to 1,470,495; in 1910 to 1,699,944.

There are 134 cities and towns having a population of 1,000 or more, the number of inhabitants in cities of 10,000 or more being 393,490, or nearly 23 per cent of the total population. The 12 largest cities and their present population are Kansas City, 93,121; Wichita, 62,404; Topeka, 40,624; Hutchinson, 23,401; Leavenworth, 21,849; Pittsburg, 18,048; Parsons, 17,286; El Dorado, 16,246; Atchison, 15,300; Coffeyville, 13,465; Lawrence, 13,456; Salina, 13,278.

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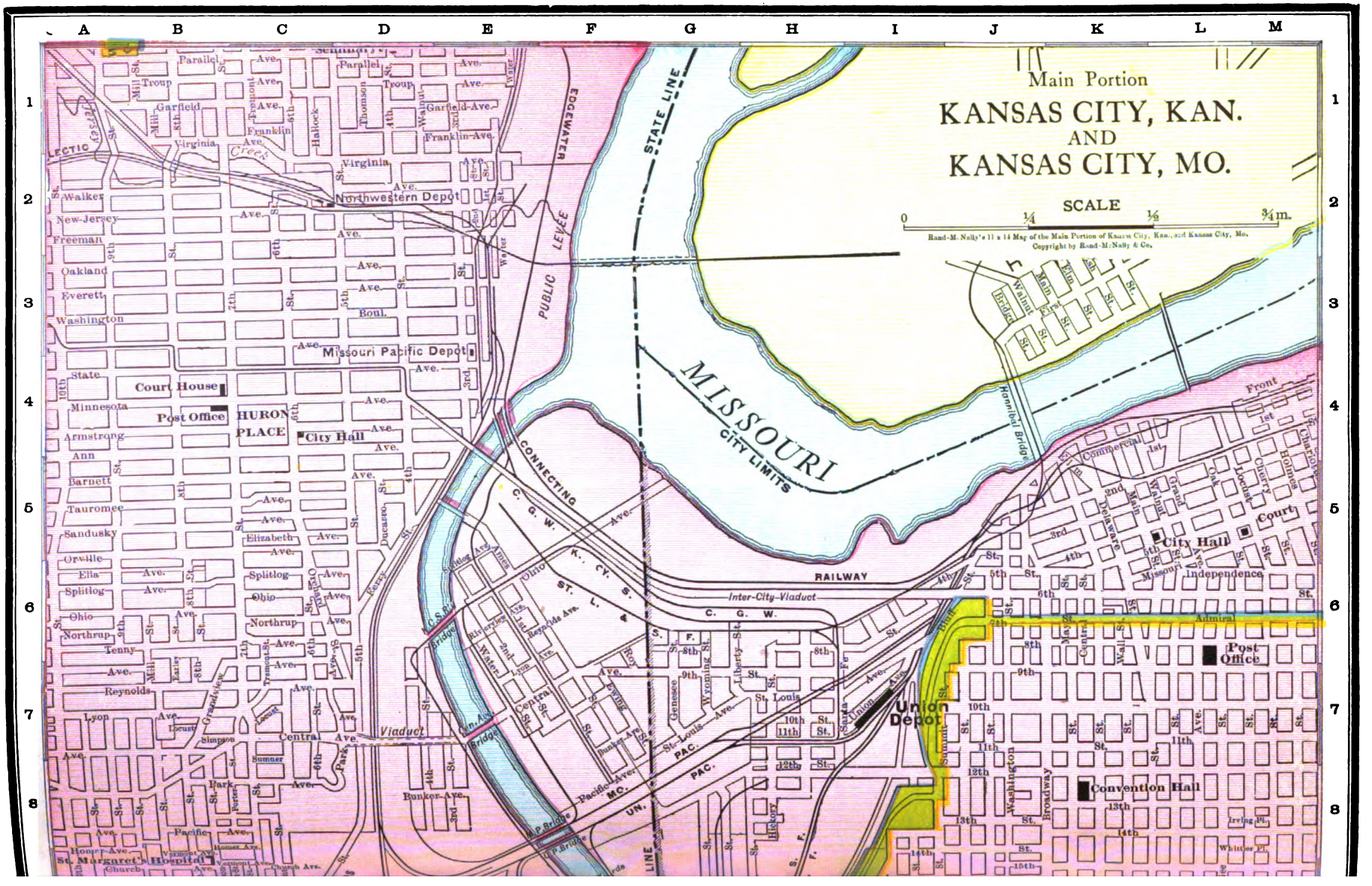
JAMES L. KING,
Kansas State Librarian.

KANSAS, University of, a State educational institution, situated at Lawrence, Kan. The establishment of a State university was provided for in the State constitution, and an act of the legislature incorporated the university in 1863. In 1865 a preparatory department was opened, and in 1866 one building was erected and the collegiate department established; in 1891 the preparatory department was discontinued. The present organization includes the school of arts, with classical and literary courses leading to the degree of A.B. and A.M.; the school of engineering conferring the degree of B.S. in engineering; the graduate school giving advanced courses in arts and engineering; the school of law; the school of fine arts, offering courses in music painting and elocution; the school of pharmacy; the school of medicine, offering a regular four-year medical course; the school of education and the summer session of 10 weeks. The university is the head of the State's public school system, and is in direct connection with the high schools, admitting those who have completed the high school course, or a similar course, without examination; a minimum tuition is charged, and the university is open to both men and women. The library contains about 107,000 volumes and 44,000 pamphlets; $15,000 are annually appropriated for the purchase of books; the natural history museum contains over 250,000 specimens. Number of students (1915–16) 2,950; number of professors and instructors, 218.

KANSAS CITY, Kan., city, county-seat of Wyandotte County, on the Kansas and Missouri rivers, and on the Union Pacific, the Missouri Pacific, the Chicago, Rock Island and Pacific, the Chicago Great Western and the Atchison, Topeka and Santa Fé railroads. Branches of other railroads enter the city and the nearby towns are connected by electric-


Main Portion
KANSAS CITY, KAN.
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KANSAS CITY, MO.
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Rand-McNally's 11 x 14 Map of the Main Portion of Kansas City, Kan., and Kansas City, Mo.
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MISSOURI
CITY LIMITS
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EDGEWATER
PUBLIC LEVEE
CONNECTING
RAILWAY
Inter-City Viaduct
Hannibal Bridge
Northwestern Depot
Missouri Pacific Depot
Court House
Post Office
HURON PLACE
City Hall
Union Depot
Convention Hall
Post Office
City Hall
Court
Independence
St. Margaret's Hospital
Viaduct
Admiral
Front
Commercial
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Grand
Oak
Locust
Cherry
Holmes
Charlotte
Missouri
Washington
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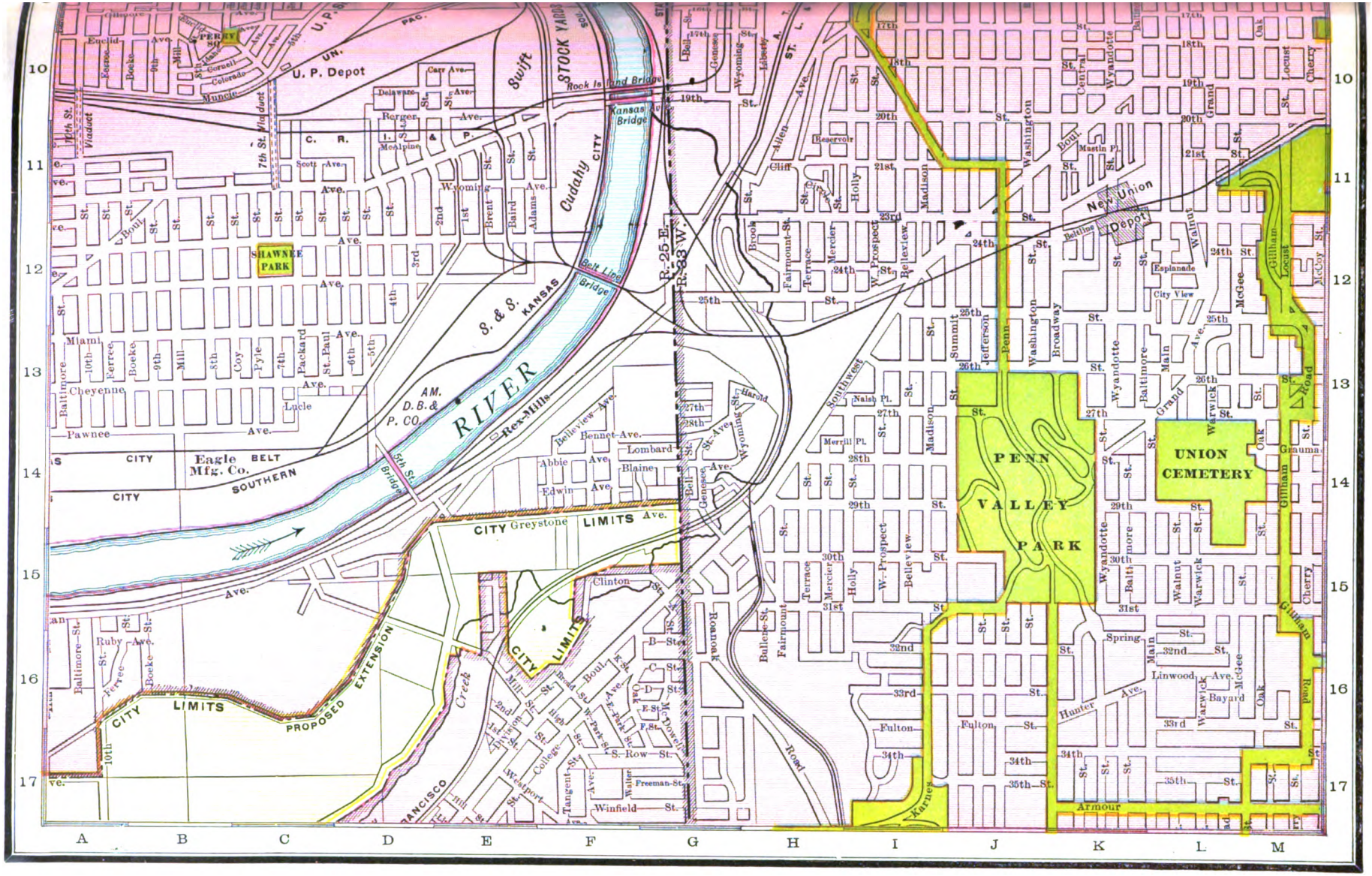
U. P. Depot
U. P. R.
UN. PAC.
STOCK YARDS
Swift
Rock Island Bridge
Kansas Bridge
Belt Line Bridge
7th St. Viaduct
10th St. Viaduct
C. R. I. & P.
Cudahy
CITY
SHAWNEE PARK
S. & S. KANSAS
RIVER
AM. D.B.& P. CO.
Rex-Mills
5th St. Bridge
Eagle Mfg. Co.
SOUTHERN BELT
CITY
CITY LIMITS
Greystone
PROPOSED EXTENSION
Creek
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R. 23 W.
New Union Depot
PENN VALLEY PARK
UNION CEMETERY
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Armour
Karnes
Fulton
Hunter
Linwood Ave.
Bayard
Spring
Esplanade
City View
Reservoir
Merrill Pl.
Nalsh Pl.
Southwest
Boulevard
Ave.
St.
Pawnee
Cheyenne
Lucile
Ruby
Clinton
Winfield
Freeman
Tangent
Westport
College
Park
Row
Division
Broadway
Washington
Madison
Jefferson
Summit
Penn
Wyandotte
Baltimore
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Warwick
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Prospect
Bellevieu
Terrace
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Abbie
Edwin
Blaine
Belleview
Delaware
Carr
Berger
Mealpine
Scott
Brent
Baird
Adams
Miami
Cory
Fyle
Packard
Paul
Coy
Euclid
Kerner
Beeke
Mill
Verree
Colorado
Muncie
Gilmore
Quindaro
Ferry
Kansas
Correll
Ruby
Baltimore
Beeke
Verree
Mill
Broad
Oak
Walnut
Locust
Cherry
Gillham
Gladstone
Road
McGee
Linwood
Bayard
Hunter
Armour
Karnes
Fulton
Spring
Main

trolley lines. Kansas City, Mo. (q.v.), continuous on the east is one with Kansas City, Kan., in commercial development, but each has an independent municipal organization. Several bridges connect the two cities. In one part of the city, east of the Kansas River and south of the Missouri, the dividing line between the two cities is a street.

Kansas City is the largest city in the State. It was formerly known as Wyandotte, until in 1886 the municipalities of Armourdale, Armstrong, Wyandotte and Kansas City united under the name of Kansas City. The area is 10½ square miles. A portion of the city is built on the river bottoms, and many fine public and private buildings are on the high bluffs and extend back on the level land. The city is on both sides of the Kansas River, so the boundary line between the States of Missouri and Kansas is in part the boundary line between the twin cities. It is noted for its live-stock and meat-packing industries; but the second largest live-stock-interest establishments in the country are on the boundary dividing the two cities. Some of its other chief industrial establishments are railroad car shops, machine shops, grain elevators, smelters, iron and steel works, flour mills, soap and candle factories, box and barrel factories, foundries, wholesale grocery houses, slaughter yards, lumber and brick yards. The manufacturing interests of the city represent a capital investment of $45,000,000, an annual production of $175,000,000, giving employment to over 15,000 persons. The city is the seat of Kansas City University (Methodist Episcopal), established in 1896; Western University (colored); the State Institution for the Blind; College of Medicine and Surgery; Saint Margaret's and Bethany hospitals, and Carnegie Library. It has fine public parks, high schools and excellent public and parish schools. The waterworks representing an investment of over $2,000,000, and the electric-light plant are civic property. Since 1909 the city is administered under the commission form of government. Pop. 94,300.

KANSAS CITY, Mo., the second in the State of Missouri and the 20th in population in the United States, is located in the northwestern part of Jackson County in the angle formed by the Kansas River at its junction with the Missouri. Kansas City, Kan., while in an adjoining State, is served by the same railroad terminals, the same street car service and the same telephone system. These two cities are contiguous, their only division being an imaginary State line. At the intersection of Fourteenth and Washington streets the latitude is 39° north and the longitude is 94° 36′ 16.18″ west.

Topography.— The original site of Kansas City presented a rugged, precipitous and uninviting aspect,— high bluffs composed chiefly of limestone facing the Kansas River as it sweeps in from the southwest, thence veering west of north till it empties into the Missouri River, thence continuing along the south bank of the Missouri River four miles to the valley of the Big Blue. Owing to the changeable nature of the Missouri River in cutting through the bottom land on either side of it, the town had to be built between the river and the bluffs, along the deep ravines and on the hills. Persons who see the city as it is now can scarcely realize the obstructions that had to be removed in grading down streets to a level and in filling cuts. The city is topographically divided into three parts, one, the largest, including all that part of the town on the highlands, extending east and south into level upland which is of great beauty; the West Bottoms, including the lowlands lying between the State line on the west and the east bluff of the Kansas River, and the East Bottom which takes in all the lowland lying east of the foot of Grand avenue where it runs to the Missouri River. All of the site was originally covered with dense forests, and it was not till after the Civil War that the timber was cut off the West Bottoms; since then it has become the busiest part of Kansas City, in which are located the stock-yards, elevators, most of the local freight depots and a large part of the wholesale business houses of the city. From its earliest history as Westport Landing, Kansas City was noted for its steamboat traffic. Here were landed the goods from the Mexican and Indian trade, west and southwest, and in exchange were received the wool, furs, buffalo robes and other articles for the Eastern markets. The location of the city at the most southern bend eastward in the Missouri River, even before the age of continental railroads, was the natural route through which the Santa Fé and the Indian trade of the west and southwest must pass to be exchanged for the products these people desired.

Commerce.— The men who contributed so much toward making Kansas City the metropolis of the Missouri Valley turned their attention to the grain and produce market of this vast region in the 70's of last century. From a small local trade in 1871 of a few hundred thousand bushels of grain handled that year, the business has grown now to 100,000,000 bushels annually. In a recent year there were received 77,786,650 bushels of wheat, 22,186,250 bushels of corn, 7,961,100 bushels of oats, 414,700 bushels of rye, 2,043,000 bushels of barley and 436,000 tons of hay (it is the largest hay market in the world), while the export of grain was 36,206,400 bushels. In the elevators and mills the storage capacity is 24,165,000 bushels, while the total mill products aggregate 2,900,000 barrels. The numerous grain elevators enable the railroads to handle the transport grain to other points with facility and dispatch. Its title as the "greatest winter wheat market" is known in foreign countries, to which millions of bushels of Kansas, Nebraska, Missouri and Oklahoma grain are annually shipped by Kansas City exporters. It is not alone as a centre for the accumulation of wheat, corn and oats that it is famous, but also as a distributing point for cereals to be consumed in the South, East and in foreign countries. Kansas City's bank clearings in 1918 were $9,940,881,940 and the bank deposits were about $280,000,000. At present Kansas City occupies the second position in the world as a live-stock market. The stock-yards are the most convenient for the quick and safe handling of stock in the United States. The aggregate value of live-stock handled annually is about $200,000,000. The packing-houses are eight in number, having a combined capacity for daily slaughter of 15,000 cat-

tle, 50,000 hogs and 15,000 sheep. These products are marketed in every civilized country. The stock-yards cover 207 acres, containing 3,688 cattle-pens. The receipts of cattle at the stock-yards for 1918 were 2,993,776; hogs, 3,327,722; sheep, 1,667,463; horses and mules, 84,628; shipped in 161,812 cars. The cost of the packing plants is estimated at $15,000,000 and the number of hands employed approximates 20,000; while the annual value of the output is over $231,150,000. In 1918 the wholesale trade exceeded $629,000,000.

Railroads.— Thirteen different railroad systems enter the city, operating 30 different lines, representing more than 50,000 miles in length. The magnitude of this business may be inferred from the fact that 260 passenger trains arrive and depart daily from the Union Station, which is the third largest in America, costing $6,000,000, while $54,000,000 more is invested in the city's terminal facilities. Two thousand five hundred cars of freight come into and go out of the freight yards every day, thus rendering Kansas City one of the great transfer and distributing points on the continent. Two railroad bridges span the Missouri River. In telegraphic communications Kansas City is only surpassed by New York and Chicago in the number of wires entering the city and in the volume of business transacted.

Manufactures.— The manufacturing industries of Kansas City developed in less than three decades to a position where the city is ranked as the 10th manufacturing city in America. Statistics gathered at the close of the year 1918 show that Greater Kansas City's plants turned out more than $677,000,000 worth of products during that year or more than $2,000,000 worth for each working day. There are more than 1,250 manufacturing plants in the city, the principal products being automobiles, chemicals, flour, iron and steel products, crude and refined oil, packing-house products and soap.

Distributing Point.— In addition to Kansas City's position as a manufacturing city, it is also a very large wholesale market, being the natural gateway to the great southwest territory. Kansas City's jobbing trade for the year 1918 amounted to more than $629,000,000. Many eastern manufacturing concerns maintain distributing plants, and over $90,000,000 worth of agricultural implements and farm tractors and $70,000,000 of automobiles and accessories were distributed through Kansas City alone, in 1917. The rapid growth and development of the southwest territory, to which Kansas City is the gateway, is likewise responsible for the city's growth. Kansas City's standing with other American cities is indicated by the following: First — in Pullman business, sale of agricultural implements, yellow pine lumber, hay market, farming territory, tributary trade, miles of park boulevards, winter wheat, stock and feed cattle. Second — as a railroad centre, live-stock market, packing centre, horse and mule market. Third — in flour-milling capacity and production, grain market, lumber, poultry and egg business, telegraphic business. Fifth — in bank clearings and grain-elevator capacity. Tenth — in manufacturing pursuits.

Government.— At the head of the city government are the mayor whose term of office is two years; upper house aldermen consisting of 16 members whose term of service is four years, elected at large; lower house councilmen, 16 members whose term of service is two years, elected one from each ward; city treasurer, comptroller and police judges elected biennially. The other officers are nominated by the mayor and confirmed by the upper house. The board system is used to some extent, there being a hospital and health board, board of park commissioners, board of public works, fire and water board, board of public welfare and board of civil service. The police department is controlled by a board of police commissioners of three members, two of whom are appointed by the governor of the State, and the third of whom is the mayor of the city. Kansas City has a degree of home rule under the State constitution which at the time of its adoption was very advanced but which is now considered restrictive. Efforts are being made to secure a constitutional amendment to extend the city's power of self-government.

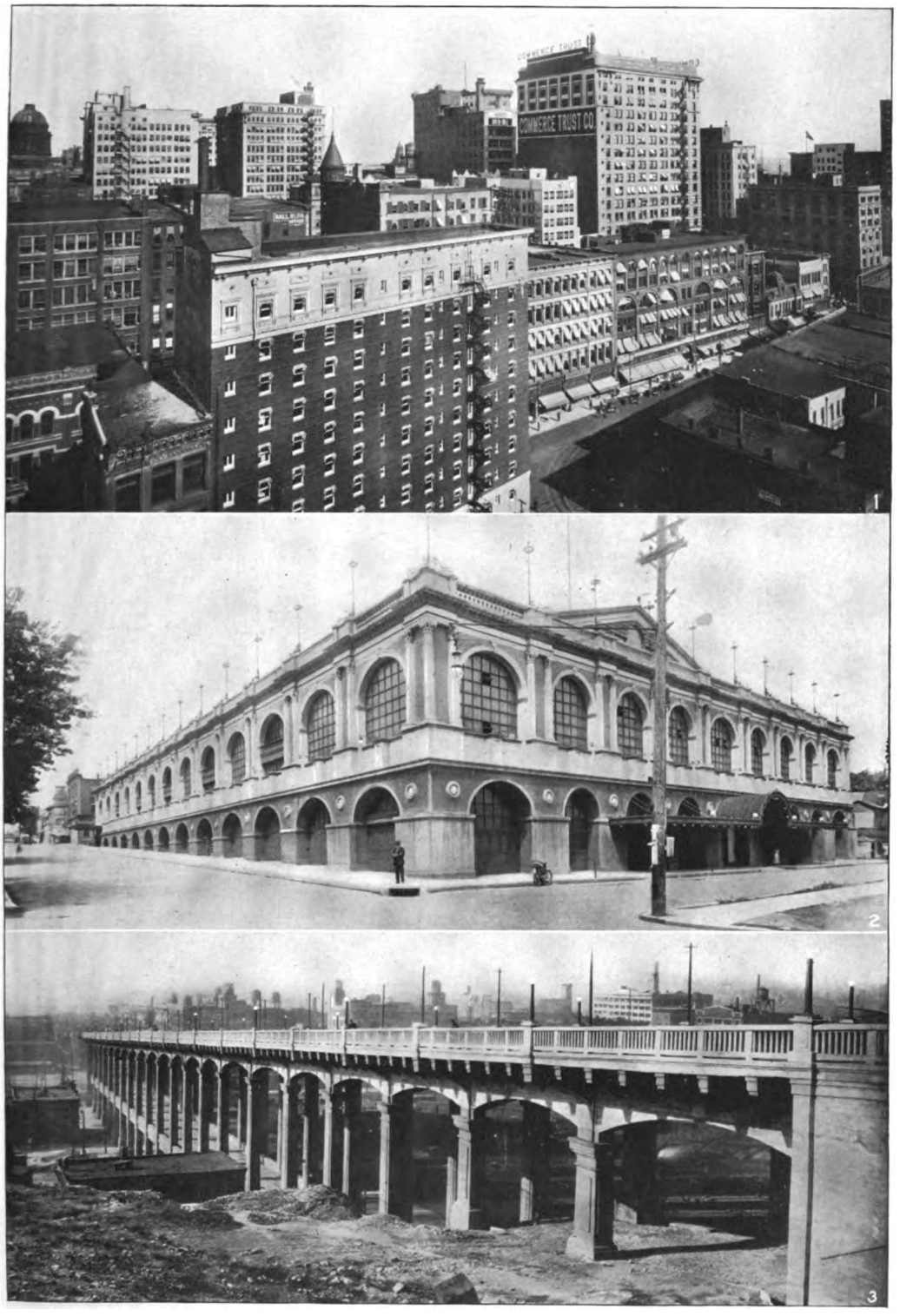
Public Service.— The assessed valuation of taxable property was $270,000,000 in 1918, 40 per cent of the actual value. The bonded indebtedness of the city is $7,590,000, not including school debt. The city is also the owner of much valuable property, valued at $22,000,000, not including street improvements, sewers, bridges, etc. The comptroller's last report, 1917, shows the expenditures for operating expenses of the several departments: Police department, $683,798.62; fire department, $475,453.25; hospital and board of health, $464,076.08; board of public works, $496,207.86; street lighting, $187,224.00; parks and boulevards, $415,443.39; water department, $1,447,121.66; other administrative expenses, $672,453.45. The city purchased the waterworks in 1895. The street railway service, which traverses all parts of the city, has 302½ miles of track, connecting with all suburban trolley lines. The city has an area of 75¼ square miles, with 1,075 miles of streets, of which about 500 are paved.

Parks and Cemeteries.— The city has spent nearly $16,500,000 for its park and boulevard system which contains 3,400 acres and 71 miles of continuous boulevards and are divided into seven park districts. The system is divided into 21 different parks, nearly all of which are connected by an extensive system of boulevards. Located in different parts of the city and easy of access are eight cemeteries, the largest of which are Mount Washington, Elmwood, Saint Mary's and Forest Hill.

Public Buildings.— Among the public buildings are Convention Hall, which will seat 12,000 persons, city hall, county courthouse, postoffice, public library, many large modern office buildings, large theatres and also libraries and reading-rooms. The public library, art gallery and museum, located at Ninth and Locust streets. cost $500,000 and is under the management of the board of education. There are 260,000 volumes in the library, paintings in the art gallery of the value of $200,000 and a rare collection of natural history specimens in the museum which is especially rich in Indian curios. There are 40 hospitals, asylums and homes.

Public Schools.— The present public school system was organized August 1867 and in October of that year the schools were formally opened in rented rooms. Bonds were issued, sites were purchased and schoolhouses erected.

KANSAS CITY



1 Part of the Business District 2 Convention Hall, seating 12,000 3 The Twelfth Street Viaduct

1 Along the beautiful Cliff Drive

2 Old Santa Fe Trail. The beginning in Penn Valley Park

Sixteen teachers were employed during the first year and about 1,200 pupils were enrolled. From this small beginning the school district has been enlarged till there are 130 elementary and high schools, including a junior college, with buildings, including sites valued at $11,500,000; with an enrolment of 51,994 pupils, of whom 6,427 are in the four high schools, being the largest per cent of high school pupils in any city in the United States having a population of more than 100,000 inhabitants. There are 1,400 teachers employed in the public schools. The public library in which there are 105 persons employed is also under the control of the board of education. In addition to the public school system there are 60 other schools of various kinds, including private and parochial schools, medical and dental colleges, commercial schools, a school of oratory, fine arts and an excellent school of law. The cost of operating the schools and public library is $2,575,000.

Religion.— The number of churches in Kansas City is 379. The religious organizations now number: Baptist 78, Catholic 46, Christian 28, Church of Christ Scientist 6, Congregational 13, Jewish 9, Lutheran 17, Methodist Episcopal 82, Presbyterian 27, Protestant Episcopal 15, Reorganized Latter Day Saints 15, miscellaneous 43.

History.— The name is derived from an Indian tribe that formerly occupied and owned much of this section of the country, their title to which was extinguished in 1808, except for a narrow strip of land 24 miles wide lying eastward of the State line from Fort Clarke, later known as Fort Osage, and extending southward to the Arkansas River. The Indians relinquished their title to this strip of land in 1825 and in it lies nearly all of Jackson County. Trading-posts had been established at different points along the Missouri River from 1765 to 1809 as far upward as what is now Saint Joseph by adventurous French trappers and traders who first explored much of this western country. The settlers who had been checked at the eastern limit of the Kansas Indian Reservation made a general rush into the newly-acquired purchase. In 1826 a census was taken with the view of forming a county organization, which was effected 15 December in the same year. Prior to this date, however, Daniel Morgan Boone, third son of Daniel Boone, the noted pioneer, came from Kentucky in 1787 to Saint Louis, where he made his home for 12 years, residing there during the summers, but in winters hunting and trapping beaver chiefly on the Big and Little Blue, in Jackson County. It was reserved for Lewis and Clarke to give the first distinct account of the country at the mouth of the Kansas River, dated 26 June 1804. In 1800 Louis Barthelot, known in the early history as Grand Louis, moved from Saint Charles, Mo., and settled at the mouth of the Kansas River, his wife being the first white woman to have a home on the present site of Kansas City. In 1821, the Chouteaus (q.v.) established a fur-trading camp opposite Randolph Bluffs. In 1825 the Jesuit fathers organized a mission near the mouth of the Kansas River and built a small log house near the foot of what is now Troost avenue, just below the bluff, where they worshipped for several years. A flood in 1826 destroyed Chouteau's trading-post, the first permanent white settlement within the corporate limits of Kansas City. These settlers were trappers, traders, laborers and voyagers with their families. Father Roux came in 1830 and took charge of the congregation and five years later he purchased from a Canadian Frenchman a tract of 40 acres upon the hill adjoining the present site of the Roman Catholic cathedral and the bishop's residence. A part of this tract was cleared of the heavy timber and a log church was erected, and here the congregation, composed chiefly of French-Canadians and half-breeds, scattered over more than 400 square miles, worshipped for 20 years. As soon as the Indian land was purchased settlers poured into it from the settlements east of it. What is now the busiest part of Kansas City was called at first Westport Landing. The town of Westport was platted in 1833 and lies about four miles south of the landing on the Missouri River. Kansas City proper, that is, 250 acres of land, was laid out in town blocks and lots in 1838, but owing to a disagreement among the stockholders the project was abandoned till 1846, when a new company was formed who advertised and sold 150 lots. The town began to grow and soon had 600 inhabitants. At this time the chief agency in building up the new town was the trade with the Indians and with New Mexico. Besides the French settlers who had established themselves in the vicinity of what is now Kansas City was James H. McGee, who came here in 1828 and whose family was prominently identified with the early history and development of this part of Missouri. Prior to 1828 the only means of crossing the Missouri River at this point was by canoes, but that year a ferry was established, so that the few settlers could cross the river to take their corn to a horse-mill on the north side of the river.

Population.— The population in 1838 was 300; 1880, 55,785; 1900, 163,750; 1918, 313,785. The population of Greater Kansas City, which includes Kansas City, Kan., Independence, Mo., and Rosedale, Kan., is 450,000. Consult Case, 'History of Kansas City' (1888); Miller, 'History of Kansas City' (1881).

E. W. MENTEL,
Industrial Commissioner.

KANSAS INDIANS, a Siouan tribe which formerly occupied territory on the lower Kansas River in Kansas. See KAW.

KANSAS-NEBRASKA BILL, a bill passed by Congress in 1854; the last of three compromises between the aggressive slavery expansionists of the South and their anti-slavery opponents in the North. It is famous because, by its repeal of the first, the Missouri Compromise (q.v.), it precipitated the organization and rapid growth of the Republican party and especially incited the radical abolition sentiment of the North to aggressive action, thus causing or hastening the secession of the Southern States and the resulting Civil War. Its passage was mainly due to the leadership of Stephen A. Douglas (q.v.), of Illinois. The second compromise occurred when New Mexico and Utah came to be organized as Territories in 1850. The compromise consisted of the provision, which was also one of the two principal features of the Kansas-Nebraska

Bill, that when these Territories came to be admitted as States they should come in with or without slavery as their constitutions, which would be framed by the people, might prescribe. The strengthening of the Fugitive Slave Law was the other feature of this compromise. This settlement of 1850 was the first step toward the final compromise, the Kansas-Nebraska Bill.

As early as 1844 Stephen A. Douglas introduced in the House of Representatives a bill "to establish the territory of Nebraska," and Douglas afterward asserted that he took this method of serving notice on the Secretary of War to discontinue using that Territory as the dumping-ground for Indians. In 1848 Douglas, now chairman of the Committee on Territories in the Senate, introduced in that body a bill for the same purpose. In December 1851 Willard P. Hall of Missouri gave notice in the House of a bill for the organization of Nebraska; but none of these bills got beyond the committee stage. On 2 Feb. 1853 William A. Richardson of Illinois, the leading lieutenant of Douglas in the House, introduced still another bill "to organize the Territory of Nebraska." This bill, which, like all of its predecessors in question, made no reference to slavery, passed the House, 10 Feb. 1853; but in spite of the strenuous endeavors of Douglas in its behalf, it failed of consideration in the Senate. The long debate over this bill in the House disclosed clearly that the primary object of members from the Northwest, who were its champions, was to protect and encourage travel over the great upper line to the Pacific Coast and make way for the ultimate construction of the already much talked of Pacific Railroad; while members from the South, and especially from the Southwest, were bent on keeping this northern region open for the colonization of their undesirable Indian tribes, with the purpose of securing travel and the railroad to the Pacific Coast through their own country.

Early in the session of the next Congress — 14 Dec. 1853 — Senator Dodge of Iowa, a coadjutor of Douglas in this enterprise, introduced "a bill to organize the Territory of Nebraska." This bill also originally contained no reference to slavery; but by amendment it became the famous Kansas-Nebraska Bill, which finally became a law 30 May 1854. On 4 Jan. 1854 the Senate Committee on Territories, through Douglas, reported a substitute for the Dodge bill which contained the compromise provision of the Utah and New Mexico acts; namely, that "the Territory of Nebraska, or any portion of the same, when admitted as a State or States, shall be received into the Union with or without slavery, as their constitutions may prescribe at the time of their admission." In his famous report, accompanying this bill, Douglas points out that "eminent statesmen hold that Congress is invested with no rightful authority to legislate upon the subject of slavery in the Territories, and that therefore the 8th section of the Missouri Compromise is null and void; while the prevailing sentiment in large sections of the Union sustains the doctrine that the Constitution of the United States secures to every citizen the inalienable right to move into any of the Territories with his property of whatever kind or description, and to hold and enjoy the same under the sanction of law." The report pointed out also that under this section it was a disputed point whether slavery was prohibited in the new country by valid enactment, and advised against the undertaking by Congress to decide these disputed questions. The bill was further amended so as to provide that all questions pertaining to slavery in the Territories and the new States to be formed therefrom be left to the decision of the people residing therein; that cases involving title to slaves be left to the courts; and that the provision of the Constitution in respect to fugitive slaves should be carried out in the Territories the same as in the States. On 16 January Senator Dixon of Kentucky offered an amendment, which was accepted by Douglas, expressly repealing the slavery restriction clause of the Missouri Compromise; and the bill passed with these amendments.

The repeal of the Missouri Compromise restriction was hotly denounced by the anti-slavery element and was seized with alacrity and used with great effect as a political weapon by anti-slavery agitators and politicians; and Douglas was also savagely denounced for selfish subserviency to the South for the sake of winning the Presidency. But Douglas and his friends ably and plausibly defended the repeal of the Missouri restriction on the ground that it was consistent with and the natural sequence of the popular sovereignty compromise of 1850; that there was danger that it would be held unconstitutional by the courts; that there was ground for fear that Dixon's amendment, as he proposed it, would legislate slavery into the Territories, and that on the whole Douglas, as leader of the dominant party, and having regard to the preservation of the Union as well as to the vexatious slavery question, made the safest and best terms practicable in securing the right of the people to decide the question of slavery for themselves. In the course of the debate on the bill Douglas, as well as Thomas H. Benton, who was opposed to the repeal of the Missouri restriction, insisted that, left to the people, slavery could never be successfully introduced into Kansas or Nebraska.

Impartial consideration of all the facts bearing upon this phase of the question leaves no ground for the charge preferred by leading historians and others that the proposed Nebraska Territory was at last divided into Kansas and Nebraska at the instance of Southern members to gain opportunity to make Kansas a slave State. The "provisional" delegate in Congress at that time from Nebraska well known by contemporary citizens of the Territory as a reliable man, in his published account of his part in the transaction asserts that, before he went to Washington to attend the session of December 1853, it was agreed among the enterprising citizens of western Iowa — there were then no citizens of Nebraska — who were pushing the project for Territorial organization, that division was desirable so that one of the Territories might be directly opposite their State, and that he urged this change upon Douglas, who assented to it. In the debate on this feature of the bill Senator Dodge of anti-slavery Iowa and Representative Henn of the Iowa district bordering on Nebraska urged the

division for the frankly expressed reasons that it would be to their advantage to have the capital of an important commonwealth opposite them and would aid in securing the route of the Pacific Railroad through their part of the country; while the representatives of slave-holding Missouri were indifferent to the question of division. Douglas himself specified the wish of the Iowa members as the basis of his reason for the division of the Territory. It is significant, moreover, that Douglas had always stood for a northern Territory, as shown by his original bills of 1844 and 1848. It is a very significant fact that the northern boundary of the Territory in each of these bills was the 43d parallel, which is identical with the northern boundary of the present State; and that the southern boundary described in the bill of 1848 was also identical with the same boundary of the State, while the southern boundary described in the bill of 1844 was only two degrees farther south. These and other incidents of a like kind show a remarkable prescience and a persistent consistency in interpreting the wishes and interests of those most directly interested in the Territory opposite the State of Iowa and on the line of the great natural highway connecting Chicago, the commercial mart of the Northwest, and the home of Douglas, with the Pacific Coast. Mr. Henn in resenting "the unjust charge made on this floor by several that it (the proposed division) was the scheme of Southern men whereby one of the States to be formed out of these Territories was to be a slave State," put the case concisely: "The bill is of more practical importance to the State of Iowa and the people I represent than to any other State or constituency in the Union."

The Kansas-Nebraska Bill was also distinguished by more completely safeguarding the rights of Indian occupants than any previous Territorial organic acts had done; and likewise in being the first Territorial bill of that class which provided for the choice of the members of both houses of the legislature by popular election, to drop the provision requiring the submission of all acts of the legislative assembly to Congress for approval. The Territory organized by this bill comprised all of the unorganized part of the Louisiana Purchase north of the 37th parallel, which comprised all of the purchase north of that line except the States of Iowa and Missouri, and that part of the Territory of Minnesota between the Mississippi River on the east and the Missouri and White Earth rivers on the south and west.

ALBERT WATKINS,
Editor 'History of Nebraska.'

KANSAS RIVER, a river in the State of Kansas, formed in Geary County by the junction of the Smoky Hill and Republican rivers. The direction of its course is mainly east; but it makes one gradual curve toward the north between Junction City, at the source, and Topeka. After a course of about 250 miles through a rich agricultural region, the river flows into the Missouri at Kansas City. The largest tributary is the Little Blue River from the north. Several small tributaries enter the Kansas from the south.

KANSAS STATE AGRICULTURAL COLLEGE, a coeducational institution, located at Manhattan, Kan.; established in 1863 by the presentation to the State of Bluemont College. The college has excellent opportunities for experimental works as it cultivates 1,270 acres of land; 748 acres of which is owned by the college, and 522 acres leased. A branch station is located at Hays, Kan., with about 3,500 acres of land; two with 320 acres each at Colby and Garden City, and two of 160 acres each at Dodge and Tribune. It is not a classical school; the departments, the courses of which lead to the degree of bachelor of science, are agriculture, English, civil and highway, mechanical and electrical engineering, home economics, agricultural engineering, general and domestic science. It has also a preparatory department, a music school and a trade school. It has several short courses, as dairying, 12 weeks in winter; agriculture and mechanics, 12 weeks in winter, for two years; horticulture and mechanics, 12 weeks in winter, for two years; and domestic science, 12 weeks in fall, for two years. The faculty numbered in 1917 190, and the number of pupils in attendance was over 3,000. The school has an income from tuitions: from the State; from the "Land Grant Fund" of 1862; and by the United States Appropriation Act of 30 Aug. 1890, with a total annual revenue of about $870,000. A weekly periodical, devoted to the interests of the subjects taught in the school and called the *Kansas Industrialist*, is published by the faculty. The library has about 47,400 volumes and 25,000 pamphlets, and the value of the college property is about $1,980,000.

KANSAS WESLEYAN UNIVERSITY, a coeducational institution, founded in 1886 under the auspices of the Methodist Episcopal Church, at Salina, Kan. It maintains college, academic, education, elocution and art departments and colleges of music and commerce. The endowment is about $110,000, total enrolment about 1,400 students and 47 professors and instructors. There were in the library 12,000 volumes.

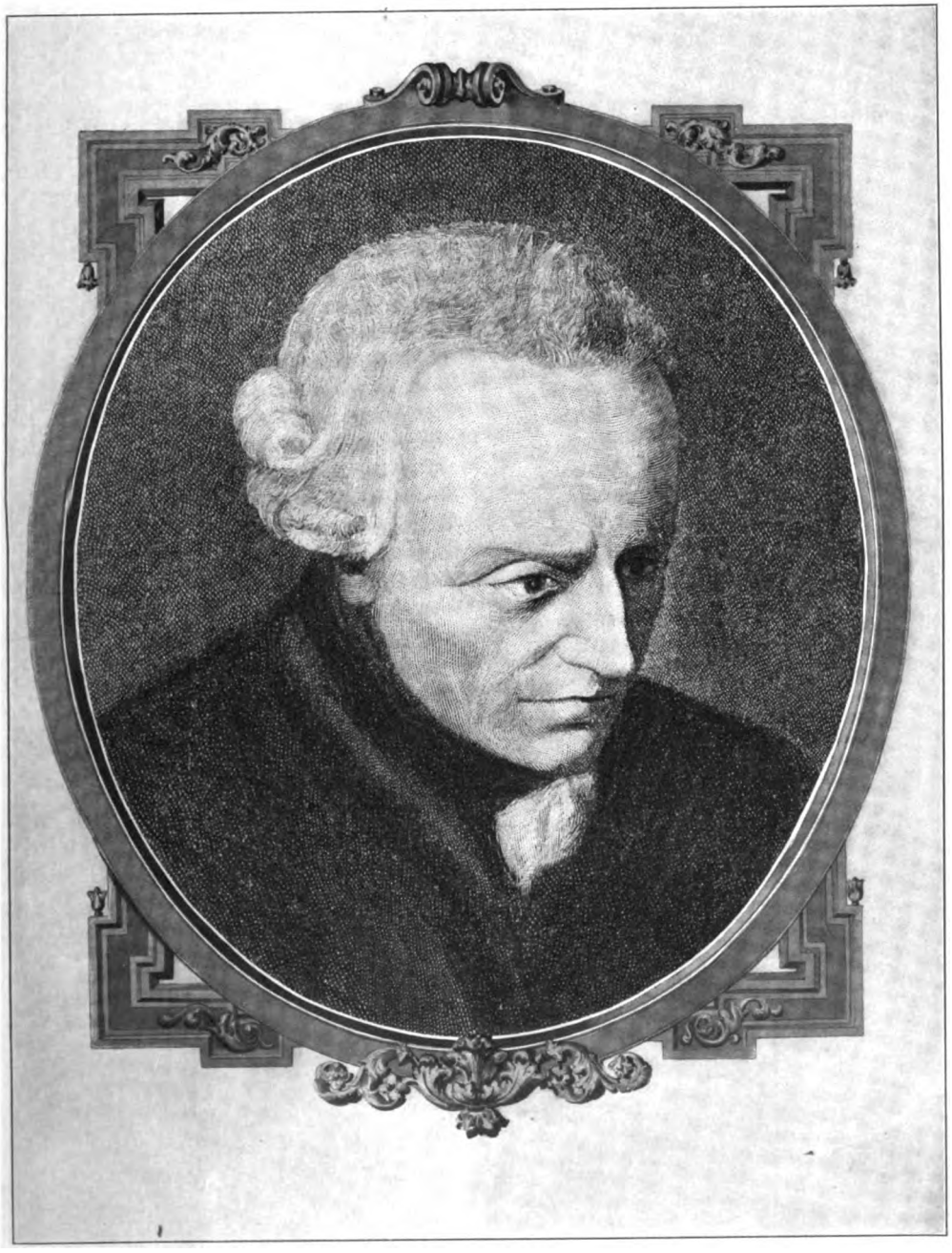
KANSU, kăn'soo', the most northwesterly of the Chinese provinces. It once formed a part of Shensi which lies to the east of it. It is bounded on the north by the Ordos Mongols territory and the desert of Gobi; on the south by Szechwan, and on the southwest by Ko-Konor. Sinkiang (New Frontier), which now forms the western boundary of Kansu, made a part of Kansu previous to the Mohammedan rebellion of 1865. Present area 125,400 square miles. Pop. 5,000,000.

KANT, Immanuel, one of the greatest of modern philosophers; b. Konigsberg, Eastern Prussia, 22 April 1724; d. there, 12 Feb. 1804. His father, who spelled his name Cant, was a poor saddler, and was said to be of Scottish origin, though this is denied by some authorities. Kant was educated in his native city at the Collegium Fredericianum and the university. After the completion of his studies at the university in 1746, he was a tutor in private families until 1755, when he became a teacher in the university. He did not receive a professorship, however, until 1770, when he was appointed to the chair of logic and metaphysics. In 1797 he retired from teaching. In the university he lectured at first on mathematics and physics in addition to the various philosophical subjects, and later added courses

on physical geography and anthropology, lecturing also occasionally on pedagogy. He was small and weak physically; but by imposing upon himself a strict regimen he was able to accomplish a vast amount of work, and to live to be 80 years of age.

Kant's Critical Philosophy is contained in his three Critiques—'Kritik der reinen Vernunft' (1781) ('Critique of Pure Reason, most important of all'); 'Kritik der practischen Vernunft' (1788) ('Critique of Practical Reason'), and 'Kritik der Urtheilskraft' (1790) ('Critique of Judgment'). In these works Kant passed beyond the Rationalism (q.v.) of Wolff, in which he had been educated, and the Empiricism (q.v.) of Hume (q.v.), to which he had for a time been inclined, and originated the transcendental method of philosophy. For him there is no knowledge without experience; but experience is a compound, and implies not only a matter given in sensation, but also forms and principles of arrangement and synthesis which come from the mind. Experience gets its character from the knowing mind, and to understand the objects of ordinary experience it is necessary to know what forms and principles the mind employs in constructing them. Kant's transcendental inquiry, then, asks what the nature of the mind must be, our experience being as it is. He finds that experience can be understood only on the assumption that the mind has certain *a priori* forms and principles which belong to its very nature. These Kant calls transcendental elements of experience, and the procedure by means of which he attempts to discover these and demonstrate their application in experience he names a transcendental method of inquiry. It is necessary carefully to distinguish Kant's use of "transcendental" from what he calls "transcendent." As we have seen, transcendental elements do not themselves depend upon experience, but belong to the mind as the forms and principles which all experience presupposes, and through which alone it is possible. The transcendent, on the other hand, is that which lies beyond the sphere of all possible experience, and consequently that which can never be known. Kant's purpose in the 'Critique of Pure Reason' is at once to discover the transcendental forms of experience and thus justify its validity, and to criticize and overthrow the false pretense of knowledge which professes to deal with transcendent objects. With respect to the first of these purposes Kant's undertaking was epoch-making, for he introduced a change in the point of view which he himself likens to that which Copernicus effected in astronomy. Whereas it had previously been held that the object had a fixed form and constitution which the mind in knowing had to passively copy, Kant teaches that objects to be known at all must conform to the concepts and principles of the knowing intelligence. In order to understand the nature of experience, then, it is necessary to ask what are the mind's ways of knowing, and what are the *a priori* forms and concepts under which it brings objects? In answering this question Kant makes a sharp division between perceptive knowledge and knowledge gained through concepts. It is true that he goes on to break down the grounds for this distinction by showing that neither perception nor thought can give knowledge apart from the other,—that "concepts without perceptions are empty, and perceptions without concepts are blind." Nevertheless, he himself always maintains this dualism in the constitution of experience. The transcendental basis of each form of knowledge is therefore investigated under a separate division of Kant's work, that of Perception in the 'Transcendental Aesthetic,' and that of conceptual experience in the 'Transcendental Analytic.' In Perception the transcendental forms are found to be space and time. Space and time are not objective entities existing apart from the mind; nor are they concepts or general ideas. Kant shows that perceptive experience such as ours is only possible if we regard space and time as belonging to the mind as forms of perceptive arrangement. Space and time do not belong to objects in themselves, therefore, apart from their being known, but are the universal forms under which all perceptive experience is known. But, for experience, objects must be *thought* as well as perceived. That is to say, what we call experience is not a mere series of perceptively arranged objects, but a unity whose parts have been systematized by thought in accordance with certain principles or points of view which it supplies. These transcendental principles, or points of view, Kant calls the Categories of the Understanding. Since to think is to judge in order to discover the complete list of categories he falls back upon Aristotle's classification of judgments under the headings of Quantity, Quality, Relation and Modality. To each of these general divisions again three categories belong, so that Kant presents his list of 12 categories with a great show of system and completeness, which however has no real warrant. Apart from the fact that there are several obvious repetitions and some omissions in the list, Kant does not find any organic relation between the different categories, such as might be shown to exist, for example, by exhibiting them as successive stages in the evolution of thought. It is true that Kant tells us that all of the categories are subordinated to the central unity of consciousness, the "transcendental Ego" or "transcendental unity of Apperception," but he never explains concretely the relation of the various categories to each other and to this unity. The "transcendental Ego," the supreme category, is not a thing or an unchanging soul-substance, but an immanent and ever active principle of organization. It is impossible to make an object of it, or to describe it as something existing by itself; for it exists only in relation to experience. It is at once the presupposition and the necessary correlate of a coherent and unitary experience of objects, a universal principle, not a particular substance.

The world of objects which is thus constituted through the forms of perception and the categories is only phenomenal; that is, only the world as it appears to us, not the world of but we are obliged to *think* things-in-themselves always remain for Kant a real background with which he contrasts the world of phenomena. We can *know* only phenomena, but we are obliged to *think* things-in-themselves as existing, though we cannot give them any positive determination. Kant seems to re-



IMMANUEL KANT

gard them as the causes of the sensations which arise in the mind. But, since casuality is a category supplied by the mind, it can only apply to objects as known, and hence cannot consistently be taken to apply to things-in-themselves. It is very difficult to make Kant consistent on this point. It is certain that he continues to contrast the world as known with a more ultimate form of reality which remains beyond the sphere of knowledge but whose certainty is guaranteed by faith or practical reason; and it is equally certain that the spirit of his philosophy tends to break down the very opposition which he has set up so carefully.

The Understanding (*der Verstand*), as Kant says, is the faculty of rules. It is its function to reflect on the objects presented to it by sense-perception in order to find the rule or category according to which one part can be united to another. But its objects must always be given to it in sense-perception, and it can do nothing but unite one object as given in space and time with another according to some general rule. From the very nature of the case, then, it can never complete its task and rise to deal with and determine the nature of a real totality. Its concern is always with phenomena, with objects in space and time and their synthesis; and, as these extend indefinitely, the understanding, therefore, never can find rest in the establishment of a completed totality. Now for Kant the limits of the Understanding are the limits of valid knowledge. We cannot know anything but phenomena and the laws of their connection. But there is another theoretical faculty which he opposes to Understanding under the name of Reason (*die Vernunft*). This is the great source of illusion. Reason transcends the sphere of the Understanding and attempts to find for objects an unconditioned basis in the ideal or Idea of an absolute and non-phenomenal unity. In this it has a certain justification as affording an ideal of unity toward which the Understanding must always strive in its investigations; but it leads to illusion when this idea of a unity is taken as a real object of knowledge and positive determinations are ascribed to it. Kant proceeds to apply this criticism in detail to the so-called sciences of the Rationalism (q.v.) of his day,— psychology, cosmology and theology,— pointing out that all these are illusory, since they are based on concepts of objects (the soul, the world, God) that lie beyond the sphere of possible experience. The conclusions drawn by rational psychology regarding the simplicity and immortality of the soul Kant rejects as "paralogisms." For, as he shows, we have no valid concept of the soul as a thing or substance, upon which to base our conclusions. The "transcendental ego" is not something which can be determined as a soul-substance or an object of a particular kind. It is always subject and never object,— the universal presupposition of experience, not an experienced thing; for an object can only be known when a sensation corresponding to it is given or may be given in experience. All the wisdom of rational psychology, which is based on the pure concept of the soul, Kant therefore rejects. In the same way he shows that over against the various theses demonstrated by rational cosmology regarding the nature of the world as a whole (that it is limited in time and space; is composed of simple parts; that in addition to natural causality it admits of free causality; that it has a necessary ground), the antithesis or direct contradictory of each proposition can be demonstrated with equal cogency. The inevitable contradictions which thus result in the field of cosmology when we attempt to go beyond possible experience and make assertions regarding the world as a whole, Kant names the "Antinomies of Pure Reason." Those regarding the extension and divisibility of the world disappear as soon as we remember that space and time do not belong to things-in-themselves, but are only forms of perceptive experience. With regard to the possibility of freedom Kant points out that although the principle of natural causation must hold without exception of phenomena, the question still remains open whether freedom may not find place in the intelligible world of things-in-themselves. This question cannot be answered on theoretical grounds but remains a mere possibility which can only be settled by appealing to practical considerations. Kant's criticism of theology is still more famous. He finds that all the proofs for the existence of God may be classified as the Ontological, the Cosmological and the Teleological. He shows that none of these proofs is valid from a logical point of view, and that the existence of God is therefore incapable of theoretical demonstration.

These negative conclusions are not, however, the goal of Kant's inquiry. As he himself said, he sought only to remove the false pretense of knowledge in order to prepare the way for rational faith. Knowledge, as we have seen, deals only with phenomena; regarding the nature of ultimate realty cognitive experience is silent. In the 'Critique of Practical Reason' Kant shows that our experience as practical and moral beings, which recognizes an absolute obligation to obey the moral law has implied in it certain presuppositions regarding our own nature and the nature of ultimate reality. In the first place, our recognition of the absolute authority of the moral law and our obligation to obey it presupposes that we have the power to do so. Moral obligation would have no meaning for a being whose will was not free. In the same way, Kant shows that moral experience implies a belief in God as the moral governor of the universe, and in immortality as affording an opportunity for the demands of the moral law to be progressively realized. Thus these problems which cannot be demonstrated on theoretical grounds find their solution from the point of view of practical experience. God, Freedom, and Immortality are never matters of knowledge or science, but moral certainties or matters of faith. One constantly finds in Kant's writings a tendency to make sharp divisions, to separate experience into different spheres. He contrasts and opposes to each other a "phenomenal" and an "intelligible" world, and again, "knowledge" and "faith" without any effort to bring these divisions again into relation. It is true that in the 'Critique of Judgment' (where he discusses the nature of æsthetic experience, and the question whether we can apply the conception of purpose to the interpretation of the organic world), Kant does at least suggest a synthesis

of the two opposing points of view. The spirit of his philosophy really transcends the opposition between phenomena that can only be *known* through mechanical categories, and an unknowable ultimate reality where we may *believe* that freedom and the realization of ideals are possible. But, even in the third 'Critique' his formal treatment is unsatisfactory, and at least the letter of his treatment appears to maintain the opposition to the end.

In addition to the three Critiques, Kant's most important works are the 'General History of Nature and Theory of the Heavens' (1755), in which Laplace's mechanical account of the evolution of the planetary systems is anticipated (translation by W. Hastie with an introduction under the title of 'Kant's Cosmogony,' 1900); the 'Dissertation' of 1770, which inaugurates the critical movement; and the 'Prolegomena,' published in 1783, as a popular exposition and defense of the first 'Critique.' See CRITIQUE OF PURE REASON.

There are also works by him on physical geography, neural pathology, ethnography, anthropology, æsthetics, criticism, meteorology, logic, politics and pedagogy. His complete works were edited by K. Rosenkranz and F. W. Schubert (12 vols., Leipzig 1842), by G. Hartenstein (8 vols., ib. 1869), by Kirchmann (8 vols, Berlin 1873), the Royal Prussian Academy (Berlin 1900—). The most noteworthy English translations of Kant are 'Critique of Pure Reason,' translated by J. M. D. Meiklejohn (London 1854), and by Max Müller (2d ed., ib. 1896); 'Prolegomena and Metaphysical Foundations of Natural Science,' translated by Ernest Belford Bax (ib. 1909); 'Philosophy of Law' (Edinburgh 1887) and 'Principles of Politics' (ib. 1891), both by W. Hastie; 'Critique of Judgment,' translated by J. H. Bernard (ib. 1892); 'The Philosophy of Kant as Contained in Extracts from his own Writings,' translated by Watson (New York 1908); 'Critique of Practical Reason, and Other Works on the Theory of Ethics,' by T. Abbott (6th ed., London 1909); 'Cosmogony,' by W. Hastie (ib. 1900); 'Dreams of a Spirit Seer,' by E. F. Goerwitz (ib. 1900); 'Educational Theory of Kant,' by E. F. Buchner (Philadelphia 1904); 'Critique of Æsthetic Judgment,' by J. C Meredith (Oxford 1911); 'Eternal Peace,' translated by W. Hastie (Boston 1914).

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There is an immense bibliography largely German, of works on Kant, which is given in Ueberweg-Heinze's 'History of Philosophy.' Consult also Adickes, 'Bibliography of Writings by Kant and on Kant which have appeared in Germany up to the End of 1887,' in the *Philosophical Review* (Boston 1892 et seq.) and the periodical, *Kant-Studien* (1897—).

JAMES E. CREIGHTON,
Professor of Philosophy, Cornell University.

KANTEMIR, kăn'tyĕ-mĕr', a noble Moldavian family notable in the history of the country. The most celebrated of its three princely members was DEMETRIUS KANTEMIR (1673–1723), who, coming into power as prince in 1710, joined hands with Peter the Great for the overthrow of Turkish supremacy. The failure of Peter's campaign forced Demetrius into exile in Russia where he became one of the most noted characters at the Russian court in his day. Among his numerous historical works are 'Discriptio Moldaviæ'; 'Hronicul Romino-Moldovlahilor'; and 'Historia de Ortu et Defectione Imperii Turcici.' See KANTEMIR, ANTIOKH DMITRIYEVITCH.

KANTEMIR, Antiokh Dmitriyevitch, a celebrated Russian satirical poet and diplomatist: b. Constantinople, 1708; d. 1744. He was the son of Demetrius Kantemir (q.v.) and of noble birth. Though born in Constantinople, he was educated in Russia where he became an officer in the army and a favorite of Peter the Great, who sent him, at the early age of 23, as Minister to Great Britain, and seven years later, in the same capacity, to France. In both countries he was a great favorite and highly regarded in literary circles as a writer and poet of talent. He was a great admirer of Horace, Juvenal, Anacreon and other classical poets whom he so successfully imitated as to make of his imitation something that appeared very like originality. Like Horace, he lashed the vices of the society of his day in a general way; but he never descended to personalities. His influence was strong in Russian literature and he is the father of the pseudo-classical movement there. He was an experimenter in verse and meter which, filled with the classical spirit, he attempted unsuccessfully to make a feature of Russian poetry. An edition of his works was published in 1762; but a translation of his satires had already appeared in French (London 1749); and in German (Berlin 1752).

KANURIS, kă-noo'rēz, certain negroes of the Sudan and especially of Bornu, Kanem and Chad parts of the country. They number about 3,500,000, most of whom are said to have an admixture of Hamite blood. Their features

are broad, flat and decidedly negroid. They belong to the Mohammedan faith.

KAOLIN, kā'ō-lĭn, certain white-burning clays of a residual nature formed by the wearing away of granite, pegmatite, schist, limestone or feldspathic quartzite. It is a soft clay of low plasticity and very refractory when burned. After burning it becomes of a beautiful white color, which makes it a very valuable material for the manufacture of porcelain, wall-tile and similar white-wares, and for paper-filling. Kaolin is found in various parts of the United States and it is mined, among other States, in Pennsylvania, Delaware, Georgia and North Carolina. There is a large production of kaolin in Europe, where it is mined principally in England, France and Germany, one of the richest mining districts being in Cornwall, England. The United States imports considerable kaolin from Europe, especially for the manufacture of paper; but the home output is steadily increasing. Consult Ries, 'Clays, Occurrence, Properties and Uses' (New York 1908).

KAPELLMEISTER, kă'pĕl-mīs'tĕr, the musical director in a royal or ducal palace. He was incidentally also the choir-master. The word came into early use in German court life and still survives in the sense of musical conductor.

KAPILA, kă-pē'lă, the founder of the Sankhya system of philosophy. He was one of the Hindu rationalistic thinkers. He probably lived about the 6th century B.C., but legend credits him with having flourished before the time of Buddha. Some writers have doubted that he ever existed and have looked upon him as a purely legendary or mythological character. He taught that only two things without beginning or end existed, that is spirit and matter. Consult Macdonell, 'History of Sanskrit Literature' (London 1913).

KAPNIST, Vasilii Yakovlevitch, Russian poet, author and satirist: b. Obukhovka, government of Poltava, 1756 or 1757; d. there, 28 Oct. 1824. He was a member of the Russian Academy and was the author of several odes, epigrams and satirical poems. His chief and most successful work was the play 'Yabeda' ('Chicanery'), a satire on the prevalent corruption and abuse of justice. The play achieved an immediate success, but was suppressed by Tsar Paul and nearly caused the author's exile to Siberia. It was subsequently translated into French (Ghent 1886) but was not sold to any great extent. Of his other plays, only two, the tragedy, 'Antigone' and his rendering of Molière's 'Squanarelle,' were of particular merit, but neither achieved a marked degree of success. There were three editions of Kapnist's works printed, two during his lifetime and the third in 1849.

KAPOK, a kind of silk-cotton. See SILK-COTTON TREE.

KAPOSI, kă-pō'shĭ, **Moritz,** Austrian dermatologist: b. Kaposvar, 1837; d. 1902. Educated at the University of Vienna, he became a teacher there in dermatology in 1866, where he succeeded Hebra as professor (1881). In collaboration with the later he wrote 'Handbuch der Hautkrankheiten' (1872–76). He became a great authority on skin diseases and wrote numerous works on the subject, the latest of which was 'Handatlas der Hautkrankheiten' (1898–1900).

KAPOSOVÁR, kŏ'pōsh-vār, a town in Hungary, capital of Somogy district. It has the usual buildings of a town of its size, including a handsome Romanesque cathedral. Its industries include cement works, tobacco and brick factories, sugar refinery and wine presses. It is the centre of a very considerable live stock business.

KAPP, Friedrich, frēd'rĭH kăp, German biographer and historian: b. in Hamm, Westphalia, 13 April 1824; d. Berlin, 27 Oct. 1884. He left Germany at the outbreak of the Revolution of 1848, and settling in New York in 1850 took active part in American politics. In 1860 he was a presidential elector and in 1867 commissioner of immigration. Returing to Germany in 1870, he entered the Reichstag in 1872. His works, which mainly refer to the United States, include 'American Soldier Traffic by German Princes' (1864); 'German Emigration to America' (1868); 'History of the German Migration into America' (1867); 'Frederick the Great and the United States' (1871), etc.

KAPPEL, kăp'ĕl, town in Zürich canton, Switzerland; noted as the scene of the death of the Protestant reformer Zwingli in 1531. The place contains a monument to his memory. Pop. about 700.

KAPTCHAK. See KIPTCHAK.

KARA, or CZERNY GEORGE. See CZERNY GEORGE.

KARA-HISSAR. See AFIUN-KARA-HISSAR.

KARA MUSTAPHA, kă'ră mŭs'tă-fă, a grand vizier of Turkey, who flourished in the middle of the 17th century and who died in 1683, strangled by the order of the Sultan. He became grand vizier in 1676 under Mohammed IV; and for the next seven years he had much to do with the affairs of Turkey, which he was accused by his enemies of mismanaging on all occasions and of always seeking his own interests to the neglect of those of the state. He laid siege to Vienna in 1683; but this was raised by Ian Sobieski of Poland who defeated the Turks with great slaughter. It was on account of this last misadventure that Kara Mustapha fell in the bad graces of the Sultan.

KARA SEA, an arm of the Arctic Ocean indenting the north coast of Siberia, between Nova Zembla and Yalmal Peninsula; it is about 300 miles long and 170 miles wide. The Yenisei and Ob rivers flow into this sea. Since 1875 when Nordenskjöld made his voyage in the *Vega,* several navigators have sailed on this sea and found that it is not, as once supposed, ice-locked all the year; but is open between July and September. Consult Hovgaard, an article in the 'Scottish Geographical Magazine' (January 1890) on a route to the North Pole.

KARADZIC, kă-ră'jĕch, **Vuk Stefánovic,** Serbian author: b. Trschitsch, Serbia, 7 Nov. 1787; d. Vienna, 7 Feb. 1864. The two great works of his life were the reformation of the Serbian literary language (which up to his time has been a very debased medium, being either rude Slavonian or a hybrid jumble of

Serb and Slavonian), and the publication of the 'Popular Serb Songs' (4 vols., 1814–33; 3d ed., 1841–46). His epoch-making Serbian-German-Latin 'Dictionary' appeared in 1818. The songs attracted widespread attention, and were translated into every European tongue. He was the founder of modern Serbian literature.

KARAGEORGEVITCH, kä'rä-gä-ôr'gä-vĭch, **Alexander,** Prince of Serbia: b. Topola, 1806; d. 1885. After having served in the Russian army he became Prince of Serbia in 1842. Though he had lived in Russia and served under the Crown, his sympathies were all with Austria; and when the Crimean War broke out, he refused to come to the aid of Russia which was inclined to still look upon him as a member of its military organization. In this difficult position Alexander elected to remain neutral, a course which pleased neither Austria nor Russia; and much less did it satisfy the National party. Through the influence of the latter he was deposed in 1858. He was accused of conspiring against the authority of the country and of having a part in the murder of Prince Michael in 1868. As a result of his trial he was sentenced to 20 years' imprisonment.

KARAGEORGEVITCH, Peter, PRINCE, king of Serbia: b. Belgrade, 1846. He was educated at Belgrade, but when his father, Alexander Karageorgevitch, was driven from the throne in 1858, he became a soldier of fortune and pretender. After training in France at the Saint Cyr School and the Military Staff College, he fought in the Foreign Legion during the Franco-Prussian War. Later he took part in Herzegovina's struggle for liberty. Upon the assassination of Alexander I. Obrenovitch in 1903, Prince Peter was proclaimed king of Serbia by the army. He has always been distinguished by his Slav sympathies; entered a vigorous protest against the annexation of Bosnia-Herzegovina by Austria-Hungary in 1908, and strongly opposed the restoration of the territory won by Serbia from Turkey in the Balkan War of 1912–13. The embittered feeling accruing from that surrender of territory prepared the way, in part at least, for the outbreak of the Great European War. When in 1915 Serbia was overrun by the Austro-German troops, the aged king took the field with his army, and accompanied it on its retreat beyond the frontiers of Serbia. See SERBIA, *History.*

KARAISKAKIS, kä-rĕs'kä-kē, **Georgios,** Greek soldier: b. Agrapha, 1782; d. 1827. He had a very varied career. At one time he was a soldier in the forces of Ali Pasha, the opponent of Turkey; but he deserted him and went over to the Turks, it is said because he disagreed with Ali Pasha, or as his critics maintained, because the Turks made it worth his while to change masters. When the Greeks rose against the Turks he turned against the latter and fought for his native country in the defense of which he fell in the attack upon the Acropolis. For his biography consult Paparrhigopoulos (Athens 1877).

KARAITES. See JEWS AND JUDAISM — THE KARAITES.

KARAKORAM, kä-rä-kō'rŭm, a range of mountains in central Asia in the northwestern end of the Himalayas. It is also known under the name of Mustagh Mountains. This range of mountains skirts the right bank of the Indus through the north of the Indian province of Kashmir, terminating in the Hindu Kush range at Pamir. The Karakoram Mountains, while not so excessively high when judged from the surrounding country, reach a very great altitude from the fact that their base is a vast upland series plateau the lowest parts of which are from 11,000 to 15,000 feet above sea-level. Some of the peaks rising from 10,000 to 15,000 feet above this, reach a really high altitude which places them among the highest mountain elevations in the world. Of those the highest is Godwin-Austen (28,265 feet). A score or more peaks are over 20,000 feet and at least five reach 25,000. Naturally, at such a high elevation with respect to uplands, valleys and mountain peaks, the range contains numerous mountain passes, at very high altitudes. Of these one of the most famous is named after the range itself which lies at an altitude of 18,550 feet above sea-level. Practically these upper regions of the Karakoram range are bleak and forbidding and very rarely blessed with vegetation of any kind, and this only in the lower regions of the foothills.

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KARAKORUM, kä'rä-kōr'ŭm (Mongol, *kara,* black, *kuren,* camp), the ancient capital of the Mongol Empire. It is on the Orkhon river near Urga. It remained the capital of the Mongol rulers from 1234 to 1409. The ruins of this ancient camp and capital of Ghengis Khan, which was visited and described by Marco Polo, lay long unknown to Europeans. In 1889 it was visited by Yadrintsev, the Russian explorer, and in 1902 by W. C. Campbell, both of whom have left descriptions of them showing that they covered a very considerable space and to have been at one time connected by a system of canals with the Jirmanta River, an evidence that Karakorum must, in the days of its prosperity, have carried on an extensive trade and been a place of considerable importance.

KARAMAN, kä-rä-măn', or **CARAMAN,** a city in Karamania (in the south of Asia Minor). It is connected with Constantinople by rail and has a very considerable transit trade much of which goes by way of Konia, which is on the railway line to Constantinople. Karaman, which in earlier days was known as Laranda, carries on a very considerable trade in hides, woolen and cotton goods. Pop. 10,000.

KARAMANIA, kä-rä-măn'ē-ă, a part of southern Asia Minor, comprising the eastern and central parts of Konieh. It consists of an elevated sandy plain lying between Lake Tuz Tcholli on the north, the Taurus Mountains to the south, the Anti-Taurus to the east, and the Sultan Dagh to the west. It was once subject to high cultivation in parts and pro-

duced much wealth: but its population has very greatly declined and the chief occupation of the remaining inhabitants is the raising of cattle. Its decline as a centre of industrial activity dates from its conquest by the Turks in the 14th and 15th centuries.

KARAMNASSA, kă'răm-năs'să, a river in Bengal, India, which is known to the natives, who have a religious horror of it, as the "destroyer of religious virtue." It is a branch of the Ganges and is about 150 miles in length. As to be touched by the waters of the Karamnassa means defilement to Hindus of Caste, in crossing it, they all have to be carried over it by the non-Caste population or on some beast of burden or in some other manner which prevents them coming into contact with the stream.

KARAMZIN, kä'rąm-zēn, **Nicholas Mikhailovitch,** Russian historian: b. 1766; d. 1826. Descended from a noble Tartar family, he received an excellent education combined with travel in England, France, Germany and Switzerland. Of a highly sentimental nature, he appears to have looked back into the romantic past of history and ignored the prosaic and reformed conditions of his time. Though profoundly influenced by French and English literature, he was intensely Russian in spirit, regarding his own country as the acme of national perfection and totally separate or self-contained from the rest of Europe. He expounded his faith in two novels, 'Natalia, the Boyard's Daughter' and 'Poor Liza' in 1792, striving, above all, to rid the Russian language from the "heavy antiquated forms" of German influence. "Pseudo-classicism" was the key-note of such literature as Russia then possessed. His 'General History of Russia' (Saint Petersburg 1816–17) was a grandiose work, rich in laborious research as well as errors, and proved an instantaneous success. He added to it during the next 10 years, making a total of 12 volumes. Together with Novikoff, author of the 'Historical Dictionary of Russian Writers,' and the poet Joukovsky, Karamzin gave the death-blow to "pseudo-classicism" and there arose, as by magic, that brilliant band of poets and novelists who created a Russian national literature worthy of the name, and of whom the greatest was Pushkin. Consult Brückner, A., 'A Literary History of Russia' (New York 1908); Kropotkin, P., 'Ideals and Realities in Russian Literature' (New York 1916); Waliszewski, K., 'A History of Russian Literature' (New York 1910).

KARANKAWAN, ka-răn'ka-wăn, an American Indian tribe, now extinct. They formerly lived along the Texas coast in the vicinity of Mattagorda Bay, and originally came from Central America. They were first mentioned in 1687, by the French explorer Joutel, and were regarded as cannibals. They were uncompromisingly hostile to the whites. In 1843, 50 survivors of the race removed to Mexico, where in 1858 the last of them were exterminated by Mexican ranchers.

KARASU-BAZAR, kä-rä'soo, a town in Russian Crimea, the centre of an important trade in fruits and other articles of commerce among which are hides, tallow, wool and certain manufactured goods. The place is decidedly oriental in appearance owing to the presence of numerous minarets and Khans. This oriental atmosphere is increased by crooked streets and a congested population of a decidedly cosmopolitan composition, including Armenians, Tartars, Jews, Greeks and Russians. Pop. about 15,000.

KARATEGIN, kä'ră-tă-gēn', the northeast province of Bokhara under the suzerainty of Russia (Central Asia). It contains an area of over 4,000 square miles, most of which is very mountainous, the mountains rising, in places, to an altitude of 18,000 feet. The valleys are fertile and the mountain slopes afford excellent feed for cattle, the raising of which forms, with agriculture, the chief occupation of the inhabitants. Among the agricultural products of the lower lands are fruits, grains, especially corn and wheat, cotton and hemp. The capital, Garm (Harm), is a place of no great importance. In fact the population of the total district is only about 100,000, consisting, for the most part, of Tajiks and Kirghiz.

KARATHEODORI, kä'ră-ta'ō-dō-re', **Alexander,** Pasha, a Turkish Christian statesman: b. Constantinople, 1833; d. 1906. On the completion of his education in Paris, he entered the Turkish diplomatic service, in which he made rapid progress, becoming councillor to the Minister of Foreign Affairs, Savet Pasha (1876–77). In 1878 he was sent as a commissioner from Turkey to the congress at Berlin and the same year he had the distinction of being appointed the first Christian Minister of Foreign Affairs in Turkey. He was Prince of Samos from 1885 to 1895 inclusive and governor of Crete during the two following years, until the uprising of the inhabitants.

KARAULI, one of the native states of India. See KERAULI.

KARAWALA. See CARAWALA.

KARELIANS, a Finnish tribe living in eastern Finland and Russia. They have the characteristic Finnish features and appearance, light hair and blue eyes. They are very active, aggressive and progressive and are among the most intelligent of the Finnish tribes. Their country, which lies at an average height of about 5,000 feet above sea level, is very unpromising and the people wring a scanty living from it through agriculture and the raising of reindeer. The culture of this Finnish folk-division, which numbers about 1,000,000, is very old and its literature is the most imaginative, epic, dramatic and picturesque of all the Finnish people. To them is due the great Finnish epic poem 'Kalevala' (the land of heroes), which was collected and pieced together from their folk tales and songs which date back to pre-Christian times. See FINLAND, *Language and Literature*; KALEVALA.

KARÉNINA, Anna, kä-rä'nyĕ-nä', one of the best of the novels of Count Leo Tolstoy. See ANNA KARÉNINA.

KARENS, kä'rĕnz, a primitive Burmese people inhabiting the mountain regions of Upper Burma, Tenasserim and Pegu. Many of the Karens are still nature-worshipers while 20 per cent or more are nominally Christians. The race is very intelligent and capable of greater progress than it has yet made. The Christian part of the Karens has advanced rapidly in civilization, due in part to the fact that

its language has been reduced to writing by Christian missionaries. Pop. over 1,000,000. Consult Colquhoun, 'Among the Shans' (London 1885); Macmahon, 'Karens of the Golden Chersonese' (London 1876); Mason, 'Civilizing Mountain Men' (1862); Smeaton, 'The Loyal Karens of Burma' (London 1887); Wade, 'Thesaurus of Karen Knowledge' (1847-50).

KARIKAL, ka'rē'käl', one of the provinces of French India. It lies surrounded by British Tanjore and extends along the Coromandel coast. Its chief commercial and business centre is Karikal, a town on the coast about 150 miles south of Madras. Had it a better harbor it would undoubtedly enjoy more business patronage. The province is governed from Pondicherry, capital of the French possessions in India. The principal foreign trade of Karikal is with Europe and Ceylon. It has been in the possession of the French since 1749 when it was ceded to them by the Rajah of Tanjore. During the Napoleonic wars it was seized by the British who restored it to France as part of the general settlement of 1814, one of the conditions of the restoration being that it should henceforth erect no fortifications and maintain no garrisons except for police purposes. Population over 60,000; that of Karikal, the chief city, 20,000.

KARL, Tom, Irish-American tenor: b. Dublin, Ireland, 1846. Educated in Italy he sang for many years in Italian opera. He appeared in English opera in the United States in 1871; and in 1887 he was one of the founders of the "Bostonians," a light opera company which was more than ordinarily successful in the days when the Gilbert and Sullivan operas were at the height of their popularity. In these Karl took leading parts. He also sang Robin Hood in De Koven's famous production. Retiring from the stage in 1906 Karl gave vocal and other concerts and taught singing and dramatic-musical training, being for a while director of the Academy of Dramatic Arts, New York City (1899). Later he followed the same work in Rochester.

KARLI, kär'lē, a Buddhist cave-temple of India, 25 miles south-east of Bombay, rich in sculpture, and divided like a church into nave and aisles, with an apse. The temple probably belongs to the 1st century.

KARLOWITZ, kär'lō-vĭts, or **CARLOVITZ,** a town of the Austrian Empire, on the frontier of Slavonia, 45 miles north-west of Belgrade. The great vine mountain in the vicinity yields the best and strongest qualities of Hungarian wines. A peace was concluded here in 1699, between Austria, Poland, Russia, Venice and Turkey. In 1848-49, Karlowitz was the focus of the Serbian rebellion against Hungary, and the theatre of collision between the Serbians and the Magyars, and at a later period between the Hungarians and the Austrians. The town contains a Greek cathedral and is the seat of the Greek archbishop of the Serbian nationality. Pop. about 6,000.

KARLSBAD. See CARLSBAD.

KARLSHAMN. See CARLSHAMN.

KARLSKRONA. See CARLSCRONA.

KARLSRUHE. See CARLSRUHE.

KARLSTAD. See CARLSTAD.

KARLSTADT. See CARLSTADT.

KARLUK, kär-lŭk', a large island of Alaska. See KODIAK.

KARMA, (1) in Buddhism, the judgment at death which determines the future state of the deceased. It is also the fiat of the Buddhists on actions, pronouncing them to be meritorious, or otherwise. (2) In theosophy, Karma means the unbroken sequence of cause and effect, each effect being in its turn the cause of a subsequent effect. It is a Sanskrit word meaning "action" or "sequence." See BUDDHISM; THEOSOPHY.

KARMATHIANS, a former Mohammedan sect, founded in Irak by Karmath during the 9th century. Missionaries were trained to spread his creed, and one of them, Abu Said, gained a strong hold on the people of the Persian Gulf. The caliph, afraid of the influence of the new sect, sent an army for its suppression, but he was defeated, and Abu Said took possession of the whole country.

KARNAK. See THEBES.

KAROK, kä'rŏk (Indian "karuk," up stream), the name by which the Indians of the Quoratean stock are generally known. Their territory was in northwestern California between the Yuroh tribe on the south and the Shasta on the north. The language of the Karok is distinct from that of the other tribes by which they are surrounded; but the Karok have been so long in contact with the other races of northern California that they have assimilated their customs, habits and culture. They are good canoe men, but owing to the lack of large trees in their country they buy their boats from neighboring tribes. The government of the Karok was that of the village community; and there seems to have been no sort of tribal unity. The different villages had different ceremonies. There were two distinct dialects of the Karok tongue.

KÁROLYI, kä'rō-lyē, COUNTS, a Hungarian family descended from the Kaplyon family of the 13th century. Among their ancestors are many illustrious names connected with the history of Hungary and Austria. The first baron of the family was Michael Károlyi, who attained this rank in 1609, while Alexander Károlyi, his lineal descendant, raised the dignity of the Károlyis to that of count in 1712. The most distinguished modern representative of the family was Count Aloys Károlyi, who was Austrian Ambassador to Berlin, representative of that country at the Berlin Congress in 1878 and Ambassador at London for the following 10 years, where he won for himself the reputation of being a very clever diplomat. The ancestral seat of the Károlyi family is at Nagy-Károly in Szatmár.

KARPELES, Gustav, Austrian critic and historian: b. Eiwanowitz, Moravia, 1848; d. 1909. On the completion of his studies at Breslau he became a journalist there; but ambition took him to Berlin in 1877. There he gradually attained the reputation of being one of the soundest critics in Germany and an authority on Heine and his literary work. Among his published works are his 'Autobiography' of Heine collected from his letters and

works (1888); 'Ludwig Börne'; 'Nikolaus Lenau'; 'Friedrich Spielhagen' (1889); 'Goethe in Polen' (1889); 'Graf Moltke als Redner' (1890); 'Die Frauen in der Jüdischen Litteratur'; 'Geschichte der Jüdischen Litteratur'; 'Allgemeine Geschichte der Litteratur' (1891); 'Jewish Literature' (1895); 'A Sketch of Jewish History' (1897). Karpeles was of a Jewish family, hence his interest in Jewish history.

KARPINSKI, kär-pēn'skē, **Franciszek,** Polish poet: b. Holoskow, Galicia, 1741; d. 1825. After graduation in theology and law at Lemberg, he entered the service of Prince Czartorski. Through his position he came into contact with the court and the king, Stanislas Augustus, who became a great admirer of the lyrical genius of the young poet, upon whom he lavished favors, and in 1794 he presented him with two estates, to one of which Karpinski retired to devote his attention more uninterruptedly to literary pursuits. Though Karpinski essayed nearly every form of poetry his genius shows itself at best advantage in his love songs and idyls and his religious hymns, which are among the best in the Polish tongue. These are universally popular with all classes through Poland. Several editions of his works have been published; notably by Dmochowski, (4 vols., Warsaw 1804; new ed., 3 vols., Cracow 1862). For his autobiography consult Moraczewski (Lemberg 1849).

KARR, Jean Baptiste Alphonse, zhŏn băp-tēst ăl-fōns kär, French novelist and satirist: b. Paris, 24 Nov. 1808; d. Nice, France, 30 Sept. 1890. He was educated at the Collège Bourbon, where he subsequently taught, and began in 1832 to write for the *Figaro,* becoming its editor-in-chief in 1839. In that year he established *Les Guêpes* (*The Wasps*), a monthly journal of satire which aroused many enmities. His earliest books were novels, among them 'Sous les Tilleuls' (1832); 'Vendredi Soir' (1835); 'Geneviève' (1838); 'Clotilde' (1839); among later works may be named 'Voyage autour de mon Jardin' (1845); 'Gaitiés romaines' (1870); 'Dieu et Diable: le Credo du Jardinier' (1875). The latter portion of his life was passed at Nice where he was a devoted gardener, several flowers having been named in honor of him.

KARROO BEDS, a series of sandstones and shales covering extensive districts of South Africa, extending through Cape Colony, Transvaal and Orange. These beds, which are nearly horizontal, contain many fossils and volcanic remains in which exist the South African diamonds.

KARROOS, kā-rooz', the Hottentot name, now adopted by physical geographers, for the table-land or extensive plains between the mountain ranges of Cape Colony. They are fertile during the short rainy season, but during the dry season they assume the appearance of parched arid deserts, though even then flocks and herds find a certain amount of food on them. In recent times artificial methods of procuring water for these tracts have been adopted. In some places great reservoirs have been made to impound the water of permanent streams, or streams that exist only in time of rain; many wells have also been sunk, from which water may be pumped by means of windmills if it does not rise of itself. In this way large areas of the Karroos are now occupied as farms on which more or less grain is grown. Kloof, a sort of companion name to karroo, is applied to the longitudinal valleys extending between the ranges of the adjacent hills.

KARS, kärs, (1) Russia, a province in the southwestern part of Transcaucasia; area, 7,239 square miles. It is mountainous, but the chief occupations are agriculture and stock-raising. Pop. (estimated) 396,200. (2) Kars, the capital of the province of Kars, is about in the centre of the province, on a high plateau, barren in part but productive in the vicinity of the city. It was formerly a Turkish fortified city. During the Crimean War in 1855 it suffered a protracted siege, the defending force, under a British officer, General Fenwick Williams, surrendering only after cholera had decimated the garrison. It was captured by Russian troops during the Russo-Turkish War of 1877–78, and was thereafter ceded to Russia. The city has some manufactories, carpet-mills, cotton and woolen factories. Pop. 35,462.

KARSHI, kär'shē, a town in Bokhara, about 100 miles southeast of the capital. It is noted for its cutlery which is used all over central Asia and which finds an even wider market. This distribution is the more easy because of the fact that Karshi is the centre of the very extensive caravan routes which branch out in several directions from it. The surrounding country, which is given to some extent to agriculture, grows poppies and tobacco and these form an important part of the exports of the city. Pop. 25,000, in which are represented most of the races of central Asia.

KARST, a south Austrian plateau. It stretches around the top of the Gulf of Triest, across the Istrian peninsula and through parts of Gradisca Carniola, Görz and Istria proper. The limestone formation of the plateau is hollowed out into caves, well-like cavities and pits often of very considerable depth and sometimes several miles in width or length. Some of these form deep valleys in which are villages, cultivated lands and even forests, forming fertile spots in the great desert of the limestone plateau above. As the limestone is more or less porous, the water makes its way through it and forms underground rivers as in Yucatan, though more water is seen above ground in Karst than in Yucatan. Tradition says that the plateau was once covered with extensive forests which were depopulated by the conquerors, probably the Romans, thus drying up all the sources of the streams that once flowed much more over ground than they do now.

KARST TOPOGRAPHY, topography in a limestone region which has been controlled largely by solution. The drainage is chiefly underground through caves and the surface is dominated by sink holes (q.v.). The name is derived from the region known as The Karst, along the Austrian shores of the Adriatic. See KARST; also DOLOMITIC ALPS.

KARTIKEYA, kär-tĭ-kā'yă, or **SKANDA,** the Hindu god of war to whom is attributed a miraculous birth without human medium or agency. According to the Sanskrit legends, the seed of the god Siva passed through fire

into the sacred waters of the Ganges. Six nymphs bathing in the water conceived and bore a son each. By some supernatural agency these children were united into one who retained six faces. This six-faced hero child became the leader of the embattled heavenly hosts. Yet notwithstanding his warlike prowess and his military renown which outshines that of all other Hindu gods and heroes, he rides upon a peacock. He is credited with having overcome innumerable giants and other active enemies of the gods. A legend, evidently of more recent origin, credits him with being the son of Siva, the destroyer (q.v.) and his wife, Parvati, the mountain-born (q.v.). Consult Dowson, 'Hindu Mythology' (London 1879); Wilkins, W J., 'Hindu Mythology' (London 1900).

KARUN, kä-roon', the only navigable river of Persia, and important as a route to the interior. About 117 miles from the mouth navigation is impeded by the rapids of Ahwaz. Formerly the Karun flowed direct to the sea, but now it traverses an artificial channel leading it into the Shat-el-Arab, which it joins at Mohammerah. It has recently been opened to foreign trade as far as Ahwaz.

KARWIN, kär-vēn', a free city existing within the Selisian Crownland, Austria. It is a place of considerable activity, being the centre of an extensive trade in coal, coke, beer and lumber the latter of which is sawn in the district. Pop. 16,000.

KARYOKINESIS, kar''ĭ-ō-kĭ-nē'sĭs, the process of development of the ovum under the influence of fertilization. See CELL; EMBRYOLOGY.

KASAN. See KAZAN.

KASBIN, käs-bēn', or **KAZVIN** (also spelled CASVEEN, CASBIN and KAZBIN), Persia, a town in the province of Irak-Ajemi, about 90 miles west-northwest of Teheran. It is built of kiln-burned bricks, and had once a great number of elegant mosques and well-constructed bazaars, but a large proportion of the buildings are now ruinous and deserted, partly as the result of repeated earthquakes. The manufactures include tanning, weaving, etc., and there is a considerable transit trade. There are many vineyards and gardens in the neighborhood. Pop. about 40,000.

KASCHAU, kä'shou, a Hungarian royal free town, capital of Abanj-Torna, situated 170 miles northeast of Budapest with which it is connected by rail. It is a place of some considerable commercial and industrial importance, among its manufactures being stoneware, starch, paper, dextrin, alcohol, liquors, steel and iron goods, bricks, pottery, powder, furniture, tobacco, flour and house fittings. It has a large local trade and does an extensive business with Hungary and Galicia. Grape-growing and the manufacture of wine have supplied Kaschau with picturesque dress for the surrounding hills and mountains making it one of the most attractive cities in Hungary. It possesses excellent buildings, wide and well-kept streets and fine parks. Among its attractive buildings are Saint Elizabeth Cathedral, a fine gothic structure of the 14th century and Saint Michael's Church which dates back to the 13th century; and the municipal theatre, which, it is claimed, is the oldest theatre in Hungary. The city contains other attractive churches, fine schools and colleges and good administration buildings. Pop. 50,000, Maygars, for the most part.

KASHAN, kä'shăn, capital of the Persian province of the same name. Situated on the caravan trade route between the two important commercial centres of Ispahan and Teheran, it is the centre of considerable commercial and other activity. Among its industries are the manufacture of woolen and silk goods, brass and other artisan work, jewelry, copper vessels and household articles. It is surrounded on three sides by picturesque mountains which give an attractive air to the city while, at the same time, visiting earthquakes upon it from time to time, one of which nearly destroyed it in 1895. Among the minerals mined in the vicinity is cobalt. Pop. 37,000.

KASHGAR, käsh-gär'. See CASHGAR.

KASHMIR. See CASHMERE.

KASHMIRI, käsh-mē'rē, the Aryan language of Cashmere (q.v.), an ancient Sanskrit tongue which has, in the course of centuries, received the addition of many foreign words principally from Persian and Arabic. Kashmiri is rich in folk-tales and mythological lore most of which have never been collected owing to the fact that the people were, until lately, cut off from the art of writing. Most of the literature of the language which is all very modern and of very limited extent, is the work of foreigners among the most prominent of whom are the foreign missionaries by whom parts of the Bible, hymns and other devotional literature have been translated into Kishmiri, through the aid of the Persian alphabet which has been adapted to the needs of the native tongue. Consult Elmslie, 'Kashmiri-English and English-Kashmiri Vocabulary' (London 1872); Grierson, 'Manual of the Kashmiri Language' (Oxford 1911); Wade, 'Grammar of the Cashmiri Language' (London 1888).

KASIKUMUKS, kä'sē-koo-mooks', a Lesghian race of central Daghestan, who call themselves Lak and who are known to the Avars as Tumal. They are a distinctly different race of people from the Kumuks, their northern neighbors, who appear to be of Turkish origin. Consult Eckert, 'Der Kaukasus und seine Völker' (Leipzig 1887).

KASKASKIA, an American Indian tribe of the Algonquian family, formerly occupying a part of southern Illinois. In 1832, the survivors of the race, with the Peorias, removed to Kansas, and affiliated with the Weas and Piankishaws. The four tribes removed to Indian Territory in 1867, and in 1903 scarcely 100 members of the four tribes remained. See INDIANS.

KASKASKIA, kăs-kăs'kĭ-ă, Ill., a township in Randolph County, on both sides of the Kaskaskia or Okaw River, at its junction with the Mississippi opposite Saint Genevieve, Mo. A part of it now obliterated was the oldest town in the West, the first permanent white settlement in the Mississippi Valley. Marquette in 1675 had established a mission among the Kaskaskia Indians near the present Utica, Ill., on the

Illinois River; the Jesuits Marest and Saint Cosme, guided by Tonty (q.v.), removed the mission in 1700 to the Mississippi bottoms three miles from the river, near the Kaskaskia. It throve greatly, and was not only a large Indian market, but sent produce and furs to New Orleans. Fort Chartres was built there in 1720; eminent French officers and adventurers came thither — as Vaudreuil and the commandant Chevalier de Bertel — and with its gay French life it was named «the Paris of the West.» A noted Jesuit college and convent were maintained there. It formed one of the chain of posts by which France was to hem in English colonization; but in 1763 it fell into the hands of the English, who made it their capital in that region. On 4 July 1778 George Rogers Clark (q.v.), with a company of 200 Virginia militia, captured it for the United States by a night attack; this enabled us to claim and obtain possession of the Northwest Territory by the peace of 1783, and changed the destiny of this whole region. It remained a leading western town, and was the capital of Illinois as a Territory (1809) and a State (1818); but on removal of the seat of government to Vandalia in 1819, it began to decline. The river steadily encroached on the meadow; and in 1892 united its course with the Okaw, converting a large part of the old site, with most of the ancient buildings, into an island, which in 1899 crumbled into the river after several great floods. North of the junction still remains about a third of the town site, with the foundations of a church and of the capitol building. In 1891 the Illinois legislature appropriated $50,000 to remove the old cemetery to a point on the bluffs, and a large monument has been erected there. Pop. 142. Consult 'Kaskaskia: A Vanished Capital' (in *Chautauquan*, Vol. XXX, Chautauqua, N. Y., 1900); 'Kaskaskia and its Parish Records' (in *Magazine of American History*, Vol. VI., New York 1880).

KASKASKIA RIVER, rises in Champaign County, Ill., and flows southwest through Moultrie, Shelby, Clinton, Fayette and Saint Clair counties, finally joining the Mississippi in Randolph County. It formerly entered at Chester, but in 1891 the great river cut away the neck of land at Kaskaskia and joined it there. It is nearly 300 miles long, and navigable to Vandalia, 150 miles. It flows through a fertile rolling country which is part of the Illinois coal field.

KASSAI, kās-sī', a tributary of the Kongo, which it enters from the south a short distance above Stanley Pool, pouring into the Kongo a vast volume. It is navigable for hundreds of miles.

KASSALA, kā-sā'lā, North Africa, a town at the southeastern extremity of the Egyptian Sudan, near the border of Abyssinia, formerly belonging to Egypt, and once a commercial centre. Before the Mahdi's uprising it had a population of perhaps 20,000. Italians captured it from the Mahdists in 1894, and in 1897 it was restored to Egypt. Pop. 10,000.

KASSIMOV, kạ-sē'mōv, district and capital in the government of Riazan, Russia. The city is a place of considerable trade and commerce and the site of a popular and extensively attended fair; and it was, in the 15th century, the chief residence of the Tartar, Kasim Khan. To the time of the latter dates one of the picturesque mosques of the city.

KASSITES, an ancient dynastic family of Babylonia who ruled it from about 1761 to 1185 B.C. They were probably the same people as the Cossaeans. The first king of the Kassites was Gandash (1761–45 B.C.); but history sheds little real light on his origin, though he was probably the chief or leader of one of the tribes of Babylonian districts. The list of his successors has been pretty accurately ascertained with the dates of their kingship. A great deal has been gathered in the way of excavated material from the ruins of Nicæa but most of this still remains to be deciphered and correlated in order to make it furnish a consecutive and in any way satisfactory account of the almost six centuries of Kassite rule in Babylonia, which must have been one of the most interesting periods in the history of the great ancient city. The recovered records show these apparently foreign rulers (to the city) coming gradually under the uplifting influence of Babylonian culture. In all there were 36 kings who ruled over Babylon almost 577 years. The records so far recovered and deciphered show, in a fragmentary manner, yet in a most interesting way, many of the activities of this ancient line of Babylonian kings, who played the several parts in many of the historic events of their day known to us through the records of other countries. In the 8th century B.C. we find one of their sovereigns making an offensive and defensive treaty with Assyria. According to an account preserved, the daughter of the Assyrian king, Asuruballit I, became the wife of the Kassite ruler Burnaburiash (1381–56) who was on friendly relations with Amenkotep IV (1375–50) of Egypt and with other foreign potentates, with one of which at least he formed a treaty of friendship. Others of Kassite sovereigns are shown as carrying on wars against neighboring sovereigns, punishing traitors, placing their sons on foreign thrones and marrying their daughters to friendly potentates and thus strengthening their foreign relations. Behind the forbidding form of the clay tablets which record the events of the reigns of Kassites and display their activities, lies a very human story of which only glimpses are displayed. The Kassites, on account of their relationship with the development of the great cultural region surrounding Babylonia and their contact with Egypt, Assyria and other historic peoples are of historic interest; and slowly their story is being unfolded and further material to throw light on obscure or missing parts, is being sought.

KASSON, John Adam, American lawyer and diplomatist: b. Charlotte, Vt., 11 Jan. 1822; d. Washington, D. C., 18 May 1911. He was graduated from the University of Vermont in 1842, studied law, was admitted to the bar, and in 1857 moved to Iowa and continued his law practice. He became active in the Republican party, was a delegate to the national convention in 1860 and chairman of the State committee in the campaign; was assistant postmaster-general in 1861–62; and commissioner to the International Postal Congress at Paris in 1863. He was elected to Congress in 1863 and served until 1867; in the next year was elected to the Iowa State legislature, and from 1873 to

1877 was again a member of Congress. He was then appointed Minister to Austria, which position he held till 1881. In 1881–84 he served again in Congress, and from 1884–85 was Minister to Germany; in 1885 he was commissioner to the Kongo International Conference at Berlin, and special envoy to the Samoan International Conference in 1893. In 1897 he was appointed special commissioner plenipotentiary to negotiate reciprocity treaties as provided for by the Dingley Tariff Law, and in 1898 was a member of the American Canadian Joint High Commission. He has written 'History of the Monroe Doctrine' (in the *North American Review* 1881); 'History of the Formation of the United States Constitution' (1889).

KASTAMUNI, käs-tä-moo'nē, a vilayet and its capital in Asiatic Turkey, 250 miles east from Constantinople. The city has considerable trade and a few industries, among the latter being leather goods and cotton factories, and among the former grain, timber, fruit and vegetables. Kastamuni is also noted for its excellent mohair; and it still makes its famous copper ware though on a much less extensive scale than formerly on account of the abandonment of the copper mines in the vicinity of the city. Pop. 16,000.

KASTEL-POMO, one of the three divisions of the Kato Indians (q.v.).

KÄSTNER, kĕst'nĕr, **Abraham Gotthelf,** German mathematician and poet: b. Leipzig, 27 Sept. 1719; d. Göttingen, 20 June 1800. He received an appointment at Göttingen, where, in accordance with the reformatory spirit which animated that university in the latter part of the 18th century, he exerted a powerful influence in delivering mathematical and natural sciences from the bondage of antiquated textbooks. His 'Anfangsgründe der Mathematik' (6th ed. 1800), and his various other writings, inaugurated a more enlightened era of scientific study in Germany. He took a conspicuous part in the formation of the celebrated union of Göttingen poets, and by his assistance the elder Boye succeeded in introducing, through the instrumentality of the "Musenalmanach," an entirely new generation of poets to the public. His general popularity was chiefly due to his 'Sinngedichte.' A portion of his epigrammatic poems were included in his 'Miscellaneous Writings' (1783).

KASTNER, käst'nĕr, **Johann Georg,** German composer and writer on music: b. Strasburg, 9 March 1810; d. Paris, 19 Dec. 1867. He studied with Maurer and Romer; in 1832–35 composed four operas, of which 'Die Königin der Sarmaten' (1835) is chief; and then removed to Paris, where he wrote other operas, among them his best work, 'Le dernier Roi de Juda,' presented at the Conservatoire in 1844. From 1837 he also published a series of elementary treaties on music, a once authoritative work on instrumentation being perhaps the best. He was made an associate of the Académie Française.

KASTRI, or **CASTRI,** Grecian village on the southern slope of Mount Parnassus, and built upon the site of Delphi (q.v.). The greater part of the village has been moved recently farther to the west to permit of the excavations of ruins of the ancient city undertaken by French scientists in 1893.

KASTRO, kä'strō, or **KAS'TRON,** the principal town and capital of the islands of Mytilene, Chios and Lininos or Lemnos. It is also called Lemnos and Mytilene. Kastro is situated on the east coast of the island of Lesbos and possesses an ancient acropolis crowned by a magnificent castle dating back to the 14th century. Until the island was ceded to Greece at the close of the Balkan War, it had long been a Turkish Sanjak and at the same time, the seat of a Greek church archbishop. Being thus a place of considerable ecclesiastical importance, Kastro possesses numerous churches and mosques. Situated in the Grecian archipelago midway between Mount Athos and the coast of Asia Minor, Lemnos and the town of Kastro are the centre of an extensive trade reaching to all the surrounding islands and to the coast country. The island is divided into two peninsular portions by the bays of Paradise and Saint Anthony, both of which have excellent harbors each of which is named after the bay on which it is situated. Lemnos produces, in its rich valleys, tobacco, fruits, grain, wine and oil and these form the principal exports of the city. From Kastro and the surrounding country was exported to Greece and all the islands of the archipelago the famous Lemnian earth which was believed to be an effective remedy against snake bites and wounds. Kastro is connected with the mainland of Mytilene by a causeway, while the Island of Lesbos has extensive harbor facilities on two sides thus increasing the city's commercial importance as the centre of its trade and that of the neighboring islands. The island and the city are intimatelv connected with Greek history and mythology. Population of the city of Kastro about 60,000 principally Moslems. The city and the island are frequently called Stalimene. See LEMNOS; MITYLENE.

KASTRON, capital of the island of Mytilene. See KASTRO.

KASVIN, kąz'vēn, a town in Irak-Ajemi, Persia, consisting of a modern city and an extensive ruined town. See KAZVIN.

KATABOLISM, otherwise known as destructive metabolism; the chemical changes occurring within an organism and resulting in the formation of simpler products through the decomposition of more complex ones.

KATAHDIN, ką-tä'dĭn, or **KTAADN,** the highest mountain in Maine, situated in Piscataquis county and in the central part of the State. The region is difficult of access, the Penobscot River being the only thoroughfare, and its course being interrupted by frequent shoals and falls. The mountain, which has an altitude of 5,385 feet, is entirely of granite, and stands in abrupt walls with acres of surface exposed in naked floors. Its sides which are marked by bare spots caused by sliding rock, present a striking appearance. On its summit are found only lichens and a few dwarfish plants; half-way down, the birch and other forest trees are stunted. Over the granite rocks, even to the summit, are found boulders of trap and of other rocks not belonging to the mountain, and among them pieces of sandstone containing fossil shells. The view of the country from the summit embraces scattered mountains rising in conical

granite peaks, among which are interspersed hundreds of lakes, many of them large, and innumerable streams.

KATAKIUCHI, kä'ta-kē-oo'chē (Japanese, "killing one's enemy"), a very old vendetta popular in Japan. Custom prescribed the slaying, without process of law, of any one who had murdered one's lord, father or very near relative. The law came to frown on this practice but custom proved itself more powerful than the might of the properly constituted authorities. To such an extent did this popular method of righting personal injuries prevail that one who failed to perform his part in the scheme of vengeance, became thereby ostracised from the society of his class. The law prescribed capital punishment for any one taking vengeance in his own hands in the exercise of Katakiuchi; and through the continual pressure of the authorities exercised over a considerable space of time, this old custom has been completely abolished from the country. Katakiuchi, being one of the oldest and most picturesque customs of Japan with strong power to appeal to the popular imagination, the love of the romantic and reverence of the heroic, has impressed itself on the literature of the people. It forms the main motive of hundreds of stories, novels and plays, and has thus, to a considerable extent, influenced the form of Japanese popular literature. Among the many historico-dramatic works having for its chief motive the katakiuchi is the 'Forty-seven Rouins' which is still one of the standard popular pieces at all Japanese theatres. Consult Dickens, 'Chiushingura, or the Loyal League' (New York 1876); Mitford, 'Tales of Old Japan' (London 1874).

KATALLA, Alaskan port situated on Controller Bay. It is a small town and its chief importance consists in the fact that it is the terminus of the Copper River and Northwestern Railroad, forming connection with the Copper River Railroad which connects Cordova with Kennicott, one of the great copper regions of Alaska.

KATAMANDU, capital of Nepal. See KHATMANDU.

KATAMORPHISM. See METAMORPHISM.

KATE, kä'tē, **Jan Jacob Lodewijk Ten,** Dutch poet: b. The Hague, 1819; d. 1889. He studied theology at Utrecht and entered the Reformed Church ministry and was actively engaged in ministerial duties until his death. Among his charges was a church in Amsterdam to which he went in 1860. He devoted his spare time to literature and has left many original poems, principally of a religious nature, which are still popular in Holland and Flanders. Ten Kate had the gift of fluent satirical poetry which he displayed from 1842 to 1843 in his writings in the *Braga,* which he and Prius published and wrote. He was an extensive translator from Hebrew, Luther, Chamisso, Schiller, Goethe, Tégner, Andersen, Hugo, Tasso, Dante, Oehlenschläger, Byron and Milton. In turn many of his own most popular poems have been translated into French, German and other foreign languages. Among his best known works are 'De Schepping' (1866); De Jaargetidjen' (1871); 'Palmbladen en dichtbloemen' (1884). Several editions of his works have appeared, the best and most complete being that published in Leyden in 12 vols. (1890–1901). Consult Ten Brink, Jan (in *Ouze Hedendaagsche letterkundigen met bijschriften,* Amsterdam 1884).

KATER, Henry, English physicist: b. Bristol, 16 April 1777; d. London, 26 April 1835. In 1799 he went to India as an ensign, where he was engaged on the great trigonometrical survey, a work to which he rendered important service. In 1814 he retired on half-pay, and henceforth occupied himself exclusively with scientific studies. He was employed by the Emperor of Russia to construct standards for the weights and measures of that country; determined the length of the seconds pendulum, investigated the diminution of terrestrial gravity from the pole to the equator; and invented the "floating collimator," an instrument of great use to trigonometers.

KATHIAWAR, kä'tē-ä-wär', peninsula on the west coast of India, forming a part of Gujarat Province in Bombay. It is bounded on the northwest of the Gulf of Cutch, on the southeast by the Gulf of Cambay and on the west and south by the Arabian Sea. The country forms a British protectorate under whose protection and supervision are nearly 200 native chiefs. The political agency, which has an area of only about 21,000 square miles, contains a population of about 2,500,000. Among the chief towns of Kathiawar are Rajkot, Navanagar, Somnath and Junagarh.

KATHLEEN MAVOURNEEN, kath'lēn ma-voor'nēn, a famous Irish song, written by Mrs. Julia Crawford (b. Cavan, about 1798); the music was composed by an Englishman, Frederick Nicholls Crouch (q.v.), who first sang it at a concert in Plymouth, England, about 1832. He received five guineas ($26.25) for the song. In 1866 the plates were sold at auction for £532 ($2,660). Crouch composed another song called 'Kathleen Avourneen,' the words of which were written about 1844 by Desmond Ryan.

KATIPO, the New Zealand name for alleged poisonous spiders of the genus *Latrodectus* (q.v.).

KATIPUNAN (kä-tē-poo'nän) **SOCIETY,** a secret society in the Philippines, organized originally to oppose Spanish supremacy, but one of its principal objects was to drive all foreigners from the Philippines. At the adjournment of the Filipino Congress it was decreed that the supreme council of the Katipunan Society should assume control of native affairs. The society organization was purely military, with a chief or colonel assigned to each 100 members. Each member signs an oath written in his own blood, swearing under most revolting penalties to serve and obey the society. A conspiracy was discovered in 1895–96 and about 300 leaders of the society were arrested. Thereafter the society was openly opposed to the Spaniards and later to the United States. Aguinaldo placed all males under the regulations of the society, and after his defeat, the members took up guerrilla warfare against the troops of the United States. The membership in the organization is said to have gradually decreased since the American occupation.

KATKOV, kat-kôf', **Mikhail Nikiforovitch:** Russian writer and nationalist: b. 1818;

d. 1887. Educated at Moscow, Königsberg and Berlin, he became a teacher of philosophy in Moscow in 1845 and in 1851 he was appointed editor of the *Moscow Intelligencer*. He had already become much more conservative than in his youth when he sympathized with liberalism and revolutionary doctrines. He attacked the Nihilists bitterly through his paper, accusing them of being the fountainhead of all the political troubles that had flooded over Russia. Gradually he became one of the strongest supporters of absolutism while, at the same time he criticised the government for failing to use the iron hand in putting down insurrection and uprooting treason. He became the personal adviser of Alexander III, and was accused of simply echoing the sentiments of his sovereign. But this criticism was unjust for Katkov does not seem to have always sided with the tsar. The proof of this is that his name became known internationally and his reputation and influence were world-wide. As a journalist he was very active throughout his long life, and his chief writings have been published in 25 volumes of very ill-digested and selected material (Moscow 1863–87). Consult *Nord und Sud* (Vol. XCIV), 'Michail Nikiforowitsch Katkof' (Breslau 1900).

KATMAI, Alaska, a volcano of the Alaskan peninsula, situated long. 155° 30″ W., lat. 58° N. on Shelikof Strait almost opposite Karluk on Kodiak Island. Its altitude is 7,500 feet, and until its outbreak 6 June 1912 it was supposed to be extinct. The main crater is one of the greatest in the world, according to a statement made 22 Aug. 1916 by Robert F. Griggs, after a careful study of the volcano, in the interests of the American Geographic Society. "This crater," he said, "is miles across, and extends down thousands of feet to a blue-green lake, simmering and sputtering at the bottom." Mr. Griggs was accompanied on the expedition by Lucius G. Folsom, principal of the Kodiak schools, and Donovan Church, a student at the Ohio State University. This was the first close examination by scientists that had been made of the volcano since the great eruption in June 1912, when the top of the mountain was blown off, and Kodiak Island, across Shelikof Strait, was covered with a foot of volcanic ash, darkness lasting for 60 hours. "Other craters in the group have been reported as the main crater of Katmai," said Mr. Griggs, "but these do not compare with the real thing." The explorers said the most wonderful of all sights at the crater was a place where a glacier, blown in two by the eruption, still formed part of the crater wall, the intense heat being insufficient to melt this palisade of ice. Part of the crater wall is composed of igneous rock of brilliant color. Eruptions on a smaller scale occurred in 1914. Consult 'The Valley of Ten Thousand Smokes' (*National Geographic Magazine,* Vol. XXXI, pp. 13–68, Washington 1917).

KATO, kä'tō, **Tomosaburo,** Japanese naval officer: b. Hiroshima, 1859. Entering the naval service he became professor in the Japanese Naval Academy with the rank of captain in 1899, and three years later he was appointed chief staff officer of the stationary squadron. The Russo-Japanese War found him chief of staff of the Kamimura squadron, a position in which he showed marked administrative ability which secured him the appointment of bureau head when the war had ended. At the age of 49 he was vice-admiral and a year later commander of the Kure admiralty. In 1914 he was in command of the Japanese fleet which fought the Germans at Tsing-Tao and forced them to surrender the city after a four months' struggle.

KATO, kä'tō, **Yakaakira,** Baron, Japanese statesman: b. Nagoya, 1859. Educated at the University of Tokio, he entered the services of a Japanese steamship company, a position he left to become private secretary to the Minister of Foreign Affairs, Count Okuma, in 1888. In 1891 he became director of the banking and taxation bureaus in the Finance Department of the government. Three years later he was appointed Japanese envoy to Great Britain, a position he held until 1899, and again from 1908 to 1913. In the meantime he became Japanese Minister of Foreign Affairs, 1900–01, 1906 and 1913. The following year he was created baron as a recognition of his services to the nation. Through his newspaper, *Nichi-Nichi,* which he acquired in 1904, Kato has exercised considerable influence upon Japanese politics and national thought.

KATO, a Kuneste tribe of American Indians, belonging to the great Athapascan family, which, at one time, lived in Cahto and Long valleys, in Mendocino County, Cal. According to Powers the Kato consisted of the Kai-Pomo, Kastel-Pomo and the Kato-Pomo. They resemble the Pomo in culture but belong linguistically to the Athapascans, and are closely related to the Wailaki.

KATONA, kŏ-tō'nŏ, **Jószef,** Hungarian poet: b. Kecskemét, 1792; d. 1830. He was a close student of the German dramatic poets and he began his career with a rather close imitation of his models; and he never entirely freed himself from German influence especially in the drama, a field in which he was most successful. However he produced one play, 'Bánk Bán' in which he broke away from his models and became truly national. 'Bánk Bán' became immensely popular and is still frequently presented upon the stage. In Hungary it is looked upon as one of the best efforts of the national drama. Katona was active in other literary fields besides the drama but it was not until 1880, half a century after his death, that his unpublished works, consisting principally of essays and poems and fragments of unfinished dramas, appeared in print in three volumes. These volumes reveal a prolific second side of him whom Austria had come to consider as purely a dramatist.

KATRINE, kăt'rĭn, **Loch,** a lake in Perthshire, Scotland. Scott has sung its beauties in the 'Lady of the Lake' and others of his works and Wordsworth, too, has presented its attractions. The grandeur of the Trossachs, Ben A'an and Ben Venue are most vividly presented in the opening canto of the 'Lady of the Lake' and, in a lesser degree, in following cantos. Loch Katrine is a comparatively small lake, being only about nine miles long and less than a mile wide on an average, though it stretches out to greater width in places. In

the lake is the famous Ellen's Island, the home of the exiles, in the 'Lady of the Lake' whom James of Scotland visited in the guise of a lost hunter, without revealing his real name and rank. The celebrated mountains surrounding the lake are comparatively low when considered from their actual elevation above the level of the sea, Ben Venue, the highest, being only 2,393 feet. But as they rise from a low level they present jointly and severally a majestic appearance. Owing to its great natural beauty and its many romantic, traditional, historical and literary interests, Loch Katrine and the surrounding region are annually visited by many tourists and students. Modern steamers now take care of this tourist trade on the lake. In 1885 the waters of Loch Katrine were raised five feet by artificial means and its capacity as a great natural reservoir increased in order to make it furnish a greater supply of potable water to the city of Glasgow which, as far back as 1859, had made use of the lake for this purpose. This greatly reduced the dimensions of Ellen's Isle and covered up the "Silver Strand," made famous in the 'Lady of the Lake.' The water from Loch Katrine is carried over a distance of 25 miles in reaching Glasgow. The lake lies at an altitude of 365 feet above sea-level; but as its maximum depth is 500 feet, a part of it is 135 feet below sea-level. Consult Scott's 'Lady of the Lake' and 'Rob Roy' for descriptions of Loch Katrine and surrounding country.

KATSENA, kăt'sĕ-nă, the former capital of the Hausa territories, situated in the north of Kano, British Nigeria, Africa. It has been under British rule since 1903. It was at one time the most important city of the very extensive district in which it is situated; but tribal wars, which began over 100 years ago, largely depopulated it and left the greater part of it in ruins. Its present population is about 10,000 which is about one-tenth of that which it possessed at the height of its prosperity.

KATSU AWA, kătz' ăh'wą, Japanese statesman: b. 1823; d. 1900. A disciple of Yokoi Héishiro and ardent adherent of the Oyoméi philosophy, which taught that all knowledge was useless unless expressed in action, and which sought ever for constructive change, as against the hardened conservatism that becomes dry rot, Katsu went to Nagasaki. From the Dutch officers sent out by the king of Holland in the early 50's, he, with others, who later became famous, learned about steam machinery and built the first Japanese warship on a foreign model. In 1859 Katsu navigated this, the first ocean-going Japanese steamship, the *Kanda Maru*, across the Pacific in 37 days. When in 1861 Tsushima was seized and occupied by the Russians, Katsu called in the aid of the British fleet and had them expelled. In 1868, during the civil war in Japan, by reasoning with his former fellow-student, General Saigo of the Imperial forces, he saved Yedo from attack and the war torch. He laid the foundation of Japan's modern navy with purchased Dutch and American warships. He was several times member of the Cabinet. He brought American teachers to Shidzuoka and sent his son to study at New Brunswick, N. J., and in the United States Naval Academy at Annapolis, and other young men to America, and assisted in the formation of the first Commercial College in Tokio. Posthumous honors were awarded and his family ennobled. Consult Griffis, 'The Rutgers Graduates in Japan' (1916), and Clark, 'Katsu Awa: The Bismarck of Japan' (1904).

KATSUO, kăt'soo-ō', the general name in Japan for tunnies, which are extensively fished and dried. In this latter shape they form a very important part of Japanese commerce amounting annually to over 5,000,000 catties (a catty is 1⅓ pounds).

KATSURA, kăts-wē'ä, **Taro,** PRINCE, Japanese soldier and statesman: b. Choshu, 1847; d. 1913. He received a military training in Prussia, entered the Japanese army in 1867, fought in the war of the Mikado's restoration, was vice-minister of the army in 1886–91, and in the Chino-Japanese War (1894–95) commanded the 3d division, with which 4 March 1895 he captured New-chwang. For his services he was made viscount. In 1896 he was governor-general of Formosa, in 1898–1900 Minister of War, from 1901–06 was Prime Minister. In the latter year the general dissatisfaction over the Peace of Portsmouth forced his resignation. In 1908–11 he was again Prime Minister and Minister of Finance, and for the third time from December 1912 to February 1913. His services in forming the alliance with England brought him the title of count, and in 1905 he became marquis. He was made prince in 1911 after the annexation of Chosen. In 1912 he founded the political party called Rikkendoshikai.

KATTE, kăt, **Edwin Britton,** American electrical engineer, son of Walter Katte (q.v.): b. Saint Louis, Mo., 1871. Graduated from Cornell University he took up electrical engineering and became assistant engineer to the Park Avenue Improvement Commission, New York (1897–98). He then joined the engineering department of the New York Central and Hudson River Railway where he finally became chief engineer of the electrical traction systems in 1906.

KATTE, kăt'tĕ, **Hans Hermann von,** an historically notable friend of Frederick the Great: b. 1704; d. 1730. He was very much attached to the young crown prince who had incurred the ill will of his father. Frederick ordered Katte to sever all relations with the crown prince; but he disobeyed this command, and plotted to liberate the heir to the throne. This attempt was discovered and Katte was condemned to death and executed for his part in it.

KATTE, Walter, American civil engineer: b. London, England, 14 Nov. 1830; d. 5 March 1917. Coming to the United States in 1850 he was resident engineer of the Pennsylvania State canals 1857–58, and subsequently held various engineering posts of responsibility. In 1861–62 he served the Federal government as military railway engineer. From 1865 to 1875 he was in the employ of the Keystone Bridge Company of Pittsburgh, superintending at this time the building of the steel arch bridge at Saint Louis. He was chief engineer of the New York Elevated Railroad 1877–80, and from 1880 to 1898 held similar posts on other important railroads, including the New York Central.

KATTIMUNDOO, or **CATTIMUNDOO,** a semi-elastic, semi-resinous substance obtained from the gum of the *Euphorbia trigonia,* a plant which grows extensively in East India. The name itself is a native East Indian term. As the elastic resinous gum becomes older it becomes harder and more brittle and loses practically all of its elasticity.

KATTOWITZ, kạ'tō-vĭts, town in Silesia, Prussia, about 100 miles southeast of Breslau. It is a place of considerable commercial and industrial importance. Among its manufacturing interests are the making of paving blocks, especially those treated with creosote, bricks, machinery of different kinds, roofing paper, furniture, household fittings, bronze castings; there are also zinc, iron and brass factories and railway and machine repair shops. In addition to its commerce in all the products from these interests, Kattowitz is the great centre of the coal trade for a considerable part of Silesia. Pop. 50,000.

KATUN, kạ-toon, a cycle of years employed by the Mayas in computing time. The exact length of a katun has not been exactly and definitely settled. Some authorities claim that it consisted of 20 years while others assert that it covered, like the ancient Mexican calendar, 52 years. Among those who support the latter theory are Bancroft, Spence and several Mexican scientists. On the other hand, the word *kate,* among the Mosquito Indians of Central America, signifies the 28 days of the lunar month. Others of the Central American tribes follow the Mexican system of 18 months of 20 days and a cycle of 52 years. Most authorities, however, claim that the katun contained only 20 years. Pio Pérez, a noted Mexican scholar and the discoverer of an important manuscript detailing the ancient chronology of Yucatan, was of the opinion that the katun consisted of 24 years, according to his statement made to John L. Stephens, the explorer of Yucatan and Central America.

KATUNGA, a town in the British Sudan, West Africa. It has long been a place of very considerable commercial activity, forming the centre of trade of extensive surrounding territory. Pop. 20,000.

KĀTYĀYANA, kạt-yā'yă-nă, the name of several noted Hindu personages, among them some of the chief disciples of Buddha. One person of this name was a critic of great celebrity in India, chiefly on account of his criticisms of the work of Panini, the famous native grammarian and writer. The name Kātyāyana is signed to various important works on the White Yajur-Veda. The grammarian of this name lived probably about the 3d century of the present era; and so important was his work that he is still regarded as one of the chief authorities of the Hindu language of the Vedics and of the tongue of the Deccan. Consult Macdonell, 'History of Sanskrit Literature' (London 1913); Wiber, 'White Yajur-Veda' (London 1859).

KATYDIDS, large neuropterous insects of the grasshopper family *Locustidæ,* remarkable for their loud and shrill call. The katydids belong to several allied genera which have the head obtuse in front, the wings and wing-covers large and leaf-like, and the color bright green. Highly developed striduling organs are found in the males in the form of transparent drum-like structures at the base of the wing-covers, by the friction of which, one against the other, as the wings are raised and lowered, the well-known call is produced. This is heard only at night though some species have quite different day calls as well) and is so loud and shrill as to be distinctly audible at a distance of a quarter of a mile. The call of the males is answered by chirps from the females. The characteristic eggs are gummed to twigs in two contiguous over-lapping rows. Katydids are peculiarly American. The common species is *Cystophyllus concavus,* known by its very broad coarse-veined wing-covers and long ovipositor. In *Phylloptera oblongifolia* the wing-covers are narrower and the veins finer. Other related genera are *Phaneroptera* and *Microcentrum.* Consult Howard, 'Insect Book' (New York 1901) which contains a further bibliography.

KATZBACH (kāts'bäH) **RIVER,** a small stream in Silesia, Prussia, falling into the Oder at Parchwitz. On its bank 26 Aug. 1813 a battle was fought between the French and the Prussians in which the latter under Blücher won a signal victory. The French lost 12,000 and 18,000 were taken prisoners.

KATZER, Frederic Xavier, American Roman Catholic archbishop: b. Ebenesee, Austria, 7 Feb. 1844; d. Fond du Lac, Wis., 20 July 1903. He came to this country in 1864, and was ordained to the priesthood in 1866. Until 1875 he was a professor in the Seminary of Saint Francis in Milwaukee, when he became pastor of the cathedral at Green Bay and secretary to Bishop Krautbauer. After four years of labor in this capacity he was appointed vicar-general of the diocese of Green Bay, and on the death of Bishop Krautbauer, in December 1885, became administrator, and in May 1886 bishop of Green Bay. In December 1900 he was chosen archbishop of Milwaukee.

KAUAI, kow-ī', one of the Hawaiian Islands, the most northern of the group, in lat. 22° N. and long. 159° 30' W.; area, 590 square miles. It is of volcanic origin, its highest elevation reaching nearly 6,000 feet; but although mountainous in character the island has a soil of great fertility, a considerable portion of which, mainly in the northern part, is under cultivation. Sugar is the chief product, and tropical fruits are also largely grown. There is great extent of forest land, and the island is well supplied with streams, the largest of which is Hanalei. The principal harbors are Hanalei, Koloa, Nawiliwili and Waimea. Pop., with Niihau Island, 11,859. See HAWAIIAN ISLANDS.

KAUFFMAN, kowf'man, **Marie Angélique Catherine,** commonly known as ANGELICA KAUFFMAN, Swiss painter: b. Coire, Switzerland, 20 Oct. 1741; d. Rome, 5 Nov. 1807. She was the pupil of her father, John Joseph Kauffman, a painter of little note. Her first work of importance was a portrait of the Duke of Modena and his duchess. She then collaborated with her father in the decoration of the parish church and castle of Schwarzenburg, his birthplace, painting many portraits in the meantime. Going to Florence, she was

hindered in her artistic career by her passionate devotion to music and singing, but in 1763 finally abandoned all other pursuits for that of painting. She fell under the influence of Winckelmann at Rome, and produced the 'Mother of the Gracchi.' She also did some work in co-operation with the Venetian landscape painter Zucchi, whom she subsequently married. It was at this point in her life that she developed the particular sentimental syle of her paintings as seen in 'Anna and Abra'; and 'Samma at the Grave of Bennoni,' which created a furore. In London (1765) she became a favorite with court and aristocracy, and acquired great wealth and honor; she was made member of the Royal Academy and was thought to have inspired Sir Joshua Reynolds with tender feelings. She was, however, unfortunate in marrying a Swede who called himself Count Horn, from whom she was later divorced. She eventually married Zucchi and settled in Rome (1781), where her house became a rendezvous for scholars and artists, the most famous of whom was Goethe, who has left us a remarkable characterization of her art. While her tenderness borders on mawkishness and her designs are monotonous, her imaginative figures have an elevated charm which was not without its influence in circles where George Morland was typical of English art. Her personality cast a reflection which enhanced the impression which her pictures made on her contemporaries, and the 'Miss Angel' of Mrs. Thackeray Ritchie exhibits with tact and fidelity this interpretation of her somewhat remarkable career. Other works by her are 'Psyche Drying Cupid's Tears'; 'Death of Leonardo da Vinci' (1781); 'Servius Tullius as a Child' (1784); 'Abélard and Héloïse'; 'Hermitage, St. Petersburg'; 'The Vestal Virgin' (Dresden Gallery); 'Christ and the Woman of Samaria'; 'Virtue, Prudence and Folly' (Philadelphia, Pa.). There are over 200 of her original drawings in the British Museum. The best of her portraits are those of Mengs and Lady Hamilton in Kensington Museum, and of herself in the Berlin Museum, the National Gallery, London, and the Munich and Uffizi galleries. Consult De Rossi, 'Vita di Angelica Kauffmann' (Florence 1810); Dohme, 'Kunst und Künstler' (Leipzig 1817); Engels, 'Angelika Kauffmann' (Bielefeld 1892); Gerard, 'Angelica Kauffmann' (London 1893); Schram, 'Die Malerin Angelika Kauffmann' (Brünn 1890), and 'Angelica Kauffman,' in *Illustrirte Zeitung* (Leipzig, June 1903).

KAUFFMAN, Reginal Wright, American author: b. Columbia, Pa., 1877. Educated at Harvard University, he joined the Philadelphia *Press,* and finally became associate editor of the *Saturday Evening Post* (1904–07). He held the same position on the *Delineator,* was dramatic critic on the *North American* (Philadelphia) and managing editor of *Hampton's Magazine* (1909). He was United States representative to the first International Congress for Woman's Suffrage held in London in 1912, and member of the Criminal Law Amendment Commission of Great Britain (1912–13). He was in Europe, especially in Belgium, during the first year of the European War, and has been active in war work since. Contributor of poems, essays and stories to newspapers, journals and magazines, he has also written numerous photo plays and compiled and edited 'The Book of Love'; 'The Book of Gratitude'; 'The Book of Friendship,' and 'The Book of Good Cheer.' Among his original works are 'Jarvis of Harvard' (1901); 'The Things that are Cæsar's' (1902); 'The Chasm' (1903); 'Miss Frances Baird, Detective' (1906); the dramatization of the latter (with the help of Channing Pollock, 1907); 'What is Socialism' (1910); 'My Heart and Stephanie' (1910); 'The House of Bondage' (1910); 'The Girl that Goes Wrong' (1911); 'The Way of Peace' (1911); 'The Sentence of Silence' (1912); 'The Latter Day Saints' (with Ruth Kauffman, 1913); 'Running Sands' (1913); 'The Spider's Web' (1913); 'Little Old Belgium' (1914); 'In a Moment of Time' (1915); 'The Silver Spoon' (1915); 'The Mark of the Beast' (1916); 'The Ancient Guest' (a book of poems, 1917).

KAUFMAN, David S., American politician: b. Cumberland County, Pa., 1813; d. Washington, D. C., 13 Jan. 1851. A graduate of Princeton University, he removed to Natchez, Miss., where he studied law. In 1837 he settled in Nacogdoches, Tex., and the next year was elected to the Texas Congress. He was twice re-elected and twice chosen speaker of the House. In 1843 he entered the Texan Senate, taking an active part in favor of annexation, and being elected one of the first members of the House of Representatives from Texas (1846–51).

KAUFMANN, Alexander, German poet: b. Bonn, 1817; d. 1893. After studying law in Bonn and Berlin he turned to literature, and some time later became archivist to the Prince of Löwenstein (Wertheim) which allowed him time and opportunity to follow his investigations into historical subjects and more especially the history and customs of the Middle Ages. Notwithstanding his love of history he was a poet of some power, freshness and originality. It is probable that his poetic bent was encouraged by his marriage to Mathilde Binder ("Amara George"), the Nuremberg poet, who worked continuously with him. His published works include 'Cäsarius von Heisterbach' (1852); 'Gedichte' (1852); 'Mainsagen' (1853); 'Unter den Reben' (1872); 'Mythoterpe' (with his wife, 1858).

KAUFMANN, Carl Maria, German archæologist: b. Frankfort-on-the-Main, Germany, 2 March 1872. He was educated at Berlin and the University of Fribourg, Switzerland, and subsequently studied archæology at Rome. In 1899 he was ordained to the Catholic priesthood. From 1905 to 1908 as member of the Frankfort Expedition he was engaged in archæological explorations in the Libyan Desert. He discovered, in company with Ewald Falls, the old Christian city of Menas, a celebrated place of pilgrimage in early Christian days. He is the author of 'Die Jenseitshoffungen der Griechen und Römer nach den Sepulkralinschriften' (1897); 'Die Legende der Aberkiosstele im Lichte urchristlicher Eschatologie' (1897); 'Der Letzte Flavier' (a novel, 1897); 'Das Dokument der Lady' (a novel, 1899, 1909); 'Die sepulkralen Jerseitsdenkmäler der Antike und des Urchristentums' (1900); 'Die Wunder der Kirche der Kata-

komben und Martyrer' (a novel, 1900); 'Sant Elia, Erinnerungen an eine archæologische Streife in Etrurien' (1901); 'Das Kaisergrab in den Vatikanischen Grotten' (1901); 'Die Grotten des Vatikan' (1902); 'Ein altchristliches Pompeji in der Libyschen Wüste' (1902); 'Handbuch der christlichen Archæologie' (1905); 'Die Ausgrabung der Minasheiligtümer in der Mareotiswüste' (3 vols., 1906–08); 'Manuale di archeologia cristiana' (1908); 'La découverte des sanctuaires de Ménas dans le désert de Maréotis' (1908); 'Der Menastempel und die Heiligtümer von Karm Abu Mina in der ägyptischen Mariûtwüste' (1909); 'Zur Ikonographie der Menasampullen' (1910); 'Die Menasstadt und das Nationalheiligtum der altchristlichen Ægypter' (Vol. I, 1910), and contributions to periodicals. His fiction appears under the *nom-de-plume* of Marchese di San Callisto.

KAUFMANN, Konstantin Petrovitch, Russian soldier: b. near Ivangorod, 1818; d. 1882. Serving as engineer and soldier he became eventually attached to the War Department, where he was largely instrumental in the reorganization of the Russian army. His talent for organization won him the appointment of commander of the military division of Vilna and governor-general of northwestern Russia (1865), and of Turkestan (1867). The latter division, which had just been organized, permitted him again to show his talent for organization which enabled him to very much extend Russian influence throughout central Asia. He defeated Bokhara, conquered Samarkand, overcame the Khan of Kiva and generally extended Russian power.

KAUFMANN, Nicolaus, German mathematician and engineer: b. Cismar, Holstein, about 1620; d. 1687. Educated at the universities of Copenhagen and Rostock, where he paid special attention to mathematics and astronomy, he became an engineer, and, having acquired some local reputation, he went to London in 1660 where he became very much interested in the formation of the Royal Society of which he was a charter member and with which he remained closely connected all his life. Later on he went to France where he seems to have won a reputation as a skilful architect and engineer. He contributed by his writings to much of the scientific literature of his day and many of his papers appeared in the transactions of the Royal Society. Among his most notable works are 'Cosmographia' (1651); 'Astronomia Sphærica' (1651); 'Rationes Mathematicæ Subductæ' (1653); 'Logarithmotechnia' (1668–74); 'Institutionum Astronomicarum, Libri Duo' (published first in 1876). Consult Kaestner, 'Geschichte der Mathematik' (Göttingen 1796–1800); Montucla, 'Histoire des matématiques' (Paris 1799–1802). Nicolaus Kaufmann generally went under the name of Nicolaus Mercator, or at any rate his writings, for the most part, were signed with this signature.

KAUKAUNA, kâ-kâ'na, Wis., city, in Outagamie County, on the Fox River, and on two divisions of the Chicago and Northwestern Railroad, about 21 miles southwest of the city of Green Bay and seven miles northeast of Appleton. At this point the Fox River has a fall of 50 feet within one mile, which gives the city excellent water power. A government ship canal has been built to overcome the obstruction to navigation caused by the rapids. The place was first settled in 1790 by Dominick Ducharme, and was incorporated as a town in 1850. It was chartered as a city 5 April 1885. The city has three banks with a combined capital of $1,200,000. The value of taxable property is about $3,500,000, and the receipts and expenses are each about $75,000 annually. The chief industrial wealth of the city is derived from railroad shops, bag and paper works, pulp works, fibre mills, brick and tile works, foundry and machine shops, sulphite mills. The city has 10 churches, one high school, two graded public schools and two graded parish schools. About one-half the population are Germans. The city owns the water and electric-lighting plants. The government is vested in a mayor and council. Pop. 5,000.

KAULBACH, Friedrich, German portrait painter: b. Arolsen, Waldeck, 1822; d. 1903. He was one of the members of the famous Kaulbach family and a nephew of Wilhelm von Kaulbach (q.v.), under whom he studied. He had much of the talent of his uncle and might have made a noted success at the painting of large canvasses containing groups and many figures, but his success as a portrait painter made him such a favorite that most of his time was taken up with this especially remunerative work which led to his appointment as court painter and professor in the Hanover Polytechnic Institute. He painted most of the celebrities of his day, and among the best of his portraits are those of the Empress Elizabeth of Austria and Elizabeth Ney, the sculptor. Among his large historical paintings the most meritorious is the 'Coronation of Charlemagne' (Munich).

KAULBACH, Friedrich August, German portrait and genre painter: b. Munich, 1850. Son of Friedrich Kaulbach (q.v.) and grandson of Wilhelm von Kaulbach, he received his first instruction in art from his father and later continued his studies with Raupp and Kreling at Nuremberg, and later on with Diez in Munich. Under his father's teaching he early displayed a facility of coloring which he steadily improved under his subsequent teachers. His work shows much more boldness than that of his father and a sympathy with the German renaissance which the older Kaulbach did not possess. His facility in portrait painting and the reputation in art of the Kaulbach family together with his own evident talent and modernity early won for him wide local popularity which he gradually extended to include all of Germany. If not a really great artist, he has proved a versatile one. He has painted miniatures perhaps better than any one else of his day in Germany and he has won for himself the reputation of being a good caricaturist. An excellent teacher of painting and drawing, he became director of the Munich Academy in 1886, a position he held until 1891. His appointment to this office was probably due to his success in winning the Berlin gold medal for painting in 1886. Among his best-known paintings are 'Cavalier and Lady's Maid' (1873); 'A Day in May' (1879); 'Schützenlis'l' (1881); 'Lute-player' (1882); portraits of 'Frida Scotta,' 'Princess Gisela,'

'Prince Regent of Bavaria,' 'Emperor William II,' 'Empress Auguste Victoria and Daughter,' 'Ruth St. Denis' and 'Entombment,' and numerous pictures of his wife, his family and his friends. Consult Graul and also Rosenberg who have both written interesting biographies of him.

KAULBACH, Hermann, German genre painter: b. Munich, 1846; d. 1909. He was a son of Wilhelm von Kaulbach (q.v.), who gave him early instruction in painting. Later he studied under Piloty, who seems to have influenced him more than his father had. He has considerable talent, but he stands apart from the sketchy style of his age in his love for minuteness of detail. He tends largely toward historical subjects which he handles in a manner that is always interesting and generally notable for the excellent handling of coloring. Among his best paintings are 'Hansel and Gretel and the Witch' (1872, Riga Municipal Gallery); 'Last Days of Mozart' (1873, Vienna Municipal Gallery); 'Sebastian Bach Playing the Organ in the Presence of Frederick the Great' (1875, Berlin Gallery); 'Coronation of Saint Elizabeth' (1886, Wiesbaden Gallery); 'At the Grave of a Friend' (1888, Munich).

KAULBACH, Wilhelm von, German painter: b. Arolsen, 15 Oct. 1805; d. Munich, 7 April 1874. He learned the rudiments of his art from his father who was a goldsmith and engraver on copper. He was a good draftsman when he went to Düsseldorf in 1821 and entered the Art Academy where his chief teacher was Cornelius, already acknowledged as the head of the Düsseldorf school of historic painting. When Cornelius in 1825 removed to Munich, at the invitation of King Ludwig of Bavaria, he followed him and soon became his disciple in the art of ceiling decoration, examples of which are 'Apollo and the Muses' in the great hall of the Odeon, and the allegorical figures of the 'Four Chief Rivers of Bavaria' and of 'Bavaria' in the portico of the royal palace. His pure and classic power of design is well exhibited in the 16 wall paintings, illustrating the story of 'Cupid and Psyche,' in the palace of Duke Maximilian at Munich. He was at this time attracted to the study of Hogarth's works, the fruit of which appeared in his illustration of books, including the works of Shakespeare, Goethe and Schiller, and the Reineke Fuchs. He painted many great incidents in the history of Germany, including 12 scenes from Klopstock's 'Hermann's Fight,' and the 'Death of Hermann,' wall paintings in the queen's palace at Kingsbau. But his most ambitious and comprehensive works are those in which he endeavored to represent the progress of the human race by a series of typical historic tableaux. These comprise the 'Tower of Babel'; 'Age of Homer'; 'Destruction of Jerusalem'; 'Battle of the Huns and Romans'; 'The Crusaders'; 'The Reformation' (1847–63). The range of his intellectual ideas, his wonderful power of generalization, his mastery of every style of painting from caricature to the sublimity of the Italian cinquecentists, as represented by Michelangelo, have no parallel among modern painters. His coloring may be a little cold, sometimes a little crude, but his sense of form, his loftiness of conception and his genius for harmonious composition have won for him the first place among German artists of the transition period between the idealism of Cornelius and the realism of the modern historic school.

KAULBARS, kowl'bärs, **Alexander,** BARON, Russian soldier and explorer: b. Saint Petersburg, 1844. Educated for military life in his native town, he was sent on military duty to central Asia. There he spent much of his time in exploration and was the first known European to explore the country beyond Lake Issyk-Kul (1869). This he followed by other extensive exploration work in 1870–73 in China, the Russo-Japanese boundary land and the country in the neighborhood of the Sea of Aral and the Amu-Darya. After a successful part in the Russo-Turkish War he became the Russian delegate to the Balkan Boundary Commission (1878); and Bulgarian Minister of War (1882). Ten years later he became commanding officer of a new cavalry division which he had been given a commission to organize. Commander general in China in 1900; governor-general of the district of Odessa (1904) and commander of the third and afterward of the second Manchurian armies (1904), he suffered defeat at the hands of the Japanese leaders, Generals Oku and Nogi, at the battle of Mukden, where he had been entrusted with holding the right of the Russian army. His rabid anti-Jewish policy and his incompetence for higher military duties caused his removal from command at Odessa in 1913. He was a brother of Baron Nikolai Kaulbars (q.v.).

KAULBARS, Nikolai, BARON, Russian soldier: b. Saint Petersburg, 1842; d. 1906. He was an elder brother of Baron Alexander Kaulbars (q.v.). Educated for the army in his native city and in Berlin, he was appointed member of the Russian general staff (1868). Like his brother he took part in the Russo-Turkish War (1877–78) and afterward he held several important government posts and finally became chief of staff of the Sixth Army Corps at Warsaw (1889) which he left 10 years later to join the general staff at Saint Petersburg. He wrote on military subjects and did some important work as a cartographer.

KAUN, kown, **Hugo,** German musical composer: b. Berlin, 1863. After a good education in Germany along musical lines, he came to the United States and settled in Milwaukee in 1887, where he took an important part in the musical life of the city for the next four years, organizing choral and other musical societies. He returned to Berlin in 1900. He has written much chamber music and numerous choral pieces, songs, prologues, piano music of various kinds and two one-act operas, 'Der Pietist' and 'Oliver Brown'; a symphonic poem, 'Falstaff,' and a symphonic prologue, 'Maria Magdalena.'

KAUNITZ, kow'nits, **Wenzel Anton Dominik,** PRINCE, Austrian statesman: b. Vienna, 2 Feb. 1711; d. 27 June 1794. After traveling in England, France and Italy he was appointed an Imperial Councillor in 1735 and was later sent on diplomatic business to Italy (1741–42); and filled other important diplomatic posts, being Imperial Ambassador (1748) at Aix-la-Chapelle in the negotiations which

brought to a close the War of the Austrian Succession. As a member of the Privy Council of Austria he brought about an alliance between Austria and France during his term of office as Ambassador to the latter country (1750–53). This he turned into an Austro-French coalition against Frederick the Great (q.v.) during the Seven Years' War (q.v.) while he was Chancellor and Minister of Foreign Affairs. He was instrumental in the partition of Poland (1772) and the acquisition of Bukowina from Turkey (1775). He was in, many ways, a more modern statesman than most of his contemporaries and his influence was, for a long time, very strong with the Austrian court and the French government. He was one of the first statesmen to see the danger of Prussian power and ambitions against which he struggled most of his life, though not over successfully. Consult Béer, 'Denkschriften des Fürsten Kaunitz' (Vienna 1872); Schlitter, 'Correspondence secrète entre le comte Kaunitz et le baron Ignatz de Koch' (Paris 1899); Von Arneth, A., 'Biographie des Fürsten Kaunitz' (Vienna 1899).

KAUPERT, kow'pĕrt, **Gustav,** German sculptor: b. Cassel, 1819; d. 1897. After studying art at Munich he went to Rome on a government pension to continue his studies. There he worked on the figures on the Washington monument and on the sculpture work of the capitol at Washington; among his sculptures in the latter being the colossal "America" and the frontispiece figures. While art professor in the Städel Institute at Frankfort later on, he did much excellent creative work, among which are the 'Sleeping Lion' at Cassel; 'Christ and the Four Evangelists' (1877, in the Treves Basilica); 'Emperor William I' (1891, Frankfort).

KAURI, kow'rĭ, the native name of a tree and of the valuable gum derived from it. It is the most conspicuous species (*A. australis*) of the East Indian and Australian genus *Agathis* of coniferous trees,—a native of New Zealand, where it grows only at the northern extremity of the North Island. It reaches the height of 150–200 feet, and its timber is much valued for building purposes, for making furniture, etc., and still more for masts and ship-building, but it is becoming very rare. The resin of this tree, the kauri gum, forms a valuable export, and is used in making fine varnish, etc. Most of it is obtained in a semi-fossil state, by digging in places where the tree no longer grows. See DAMMAR.

KAUTSKY, kowts'kē, **Karl Johann,** Austrian socialist: b. Prague, 1854. Educated at University of Vienna, he entered journalism as an ardent socialist. This led to his wandering about from town to town, where the socialist press always welcomed him. A follower of Marx and Engels he did much to spread their political doctrines and to explain them. After having lived in London, Stuttgart, Zürich and other European cities, he finally settled in Berlin in 1897, where he became a power in Socialistic circles. Among his best-known works are 'Geschichte des Sozialismus'; 'Die soziale Revolution'; 'Der Ursprung des Christentums'; 'Vermehrung und Entwicklung in Natur und Gesellschaft.' Most of his writings have been translated into English and French while some of them have appeared in nearly every language in Europe and are listed among the publications of the Socialists of the United States and Canada.

KAUTZ, kowtz, **Albert,** American naval officer: b. Georgetown, Ohio, 29 Jan. 1839; d. Florence, Italy, 1907. He was graduated at the United States Naval Academy in 1859, became a lieutenant in 1861 and rose through gradual promotion to the rank of rear-admiral in 1898. He was flag-lieutenant to Farragut in 1862, and when New Orleans was surrendered he entered the city and raised the national flag over the custom-house. He took command of the Pacific station and in the following March was prominent in the settlement of the Samoan troubles. He was retired in January 1901.

KAUTZ, August Valentine, American general: b. Ispringen, Germany, 5 Jan. 1828; d. Seattle, Wash., 4 Sept. 1895. He was a brother of Albert Kautz (q.v.), and his parents settling in Ohio in 1832, he was graduated from West Point in 1852. He served through the Civil War in the Federal army, distinguishing himself in several engagements, was promoted colonel in 1874, and brigadier-general in 1891. He published 'The Company Clerk' (1863); 'Customs of Service for Non-Commissioned Officers and Soldiers' (1864); and 'Customs of Service for Officers' (1866).

KAUTZSCH, kowch, **Emil Friedrich,** German Protestant theologian: b. Plauen, Saxony, 4 Sept. 1841; d. 1910. He was educated at the University of Leipzig where he became tutor in Old Testament exegesis in 1869, and professor extraordinary in 1871. From 1872 to 1880 he was professor at Basel, at Tübingen 1880–88 and at Halle from the last-named date With Socin and Zimmerman he founded the Palestine Exploration Society of Germany in 1877, and among important works which he has edited are the 22d to the 26th editions of Gesenius' 'Hebrew Grammar' (1878–96); and the 10th and 11th editions of Hagenbach's 'Encyklopädia und Methodologie der theologischen Wissenschaften' (1880–84).

KAVA-KAVA. See AVA.

KAVANAGH, kăv'a-na, **Hubbard Hind,** bishop of the Methodist Episcopal Church South, and educator: b. Clark County, Ky., 1802; d. 1884. He was superintendent of public instruction in Kentucky 1837–38, and after serving 14 years in the pulpit and the exercise of ministerial duties was elected bishop in 1854. He subsequently had the distinction of being the only bishop of the Methodist Episcopal Church South within the Federal lines during the Civil War, during which he had the respect of both parties. Consult Rexford, A. N., 'Life and Times of H. H. Kavanagh.'

KAVANAGH, Julia, Irish novelist: b. Thurles, Ireland, 7 Jan. 1824; d. Nice, France, 28 Oct. 1877. She wrote a large number of novels, the scenes of which were almost invariably laid in France, where her life was mainly spent until she began a literary career in London in 1844. Among her works are 'Nathalie' (1851); 'Daisy Burns' (1853); 'Two Lilies' (1877); 'Woman in France During the 18th Century' (1850); 'A Summer and Winter in the Two Sicilies' (1858): 'French Women of Letters' (1861); 'English Women

of Letters' (1862). Her novels and other works were popular both in America and in England.

KAVELIN, kă-vĕ-lēn', **Konstantin Dmitrievitch,** Russian writer and jurist: b. Saint Petersburg, 1818; d. 1885. Graduated from Moscow University he became assistant professor there in civil law (1844–48), held a similar position in Saint Petersburg (1848–61) and was professor of law in the Military Law Academy. He became law teacher to Grand Duke Nicholas and legal adviser to the Finance Minister, positions which gave him considerable influence which he used for the good of the country, especially for the liberation of the serfs and agrarian reforms in the reign of Alexander II. An edition of his works in four volumes appeared in 1872; and a more complete edition (1897–1900) included his later writings.

KAVERI, or KAVERY. See CAUVERY.

KAVI, kä'vē, the ancient language of Java in use down to about the year 1400. It is a Malayo-Polynesian tongue resembling, in its inflections, the Javanese language, but has many words borrowed from Sanskrit. This Sanskrit vocabulary is due to various influence, all coming from contact with the earlier language of India. Many of the Sanskrit words were introduced into Kavi by Brahmans from India shortly before the beginning of the Christian era. Since then the contact of the two peoples has been almost continuous. This contact with Brahmanism resulted in making Kavi the ecclesiastical and, hence, semi-sacred language of Java, which it remains to-day. This relationship with India is strongly marked by the fact that much of the religious literature of Java is based on that of India. Now Kavi is no longer the spoken language of Java, having been superseded, in the 15th century, by the so-called vulgar tongue of Javanese, which is in reality but a modern development of the ancient Kavi tongue subject to various foreign and internal influences. This, in its turn, differs considerably from the educated or polite dialect or speech in use in Java. These three developments of the ancient Javanese tongue are written in alphabets borrowed from the alphabet of the Devanagari script and adapted to the needs of the borrowers. Consult Friedrich, 'Arjuna-Vivaha' (Batavia 1850); Kern, various native texts (The Hague 1871); Raffles, 'History of Java' (London 1817) for English translations of Javanese literature. Consult also Friedrich, 'Voorloopig Verslag van het Eiland Bali' (Batavia 1849–50); Humboldt, 'Ueber die Kawi-Spreche' (Berlin 1836–39); Jonker, 'En Oud-Javaansch Wetboek' (Leyden 1875); Juynboll, 'Drie Boeken van het Oud-Javaansche Mahābhārata' (Leyden 1893); Stuart, 'Kawi-Oordkonden' (Leyden 1875); van der Tuunk, H. N., 'Kawi-balineesch-nederlandsch woordenboek' (4 vols., Batavia 1907–12, an excellent and extensive dictionary of the Kavi language).

KAW (more correctly KANZA), a branch of the Osage division of the Siouan Indian stock, formerly living on the lower Kansas River, and early in the 19th century estimated at 1,300. In 1846 the government removed them to a reservation in the present Oklahoma, west of the Osage River, where they dwindled so rapidly that in 1910 there were only 238, over half of them of mixed blood.

KAWAIISU, kă-wā'ī-soō, a division of the Ute-Chemehuevi linguistic division of the Shoshonean family of American Indians. Their territory lay the farthest west of these tribes, occupying an isolated area on both sides of the Tehachapi Mountains in California and more especially in the basin of the valley of Walker and that of Caliente. They were thus cut off from all the other members of the great American family and thus developed special traits and customs.

KAWAMURA, kä'wä-moo'rä, **Kageaki,** VISCOUNT, Japanese soldier: b. Satsuma, 1850. Entering military life early he took part in the close of the Chino-Japanese War so successfully that he was made a baron. He also fought through the Russo-Japanese War, increasing his reputation as a successful soldier. He commanded the right of the Japanese forces at the battle of Mukden, to the winning of which he materially contributed. As a result of this and other services of a public nature he was raised to the rank of viscount and appointed special inspector-general of the Japanese army and chief military councillor, while at the same time he was commander of the garrison at Tokio, the most important military post in Japan. Thus his influence on the development of the military program of the Japanese government has been very strong and far-reaching.

KAY, John, English inventor: b. Walmersley, Lancashire, England, 16 July 1704; d. France, after 1764. In 1733 he invented the fly-shuttle, for which a patent was granted him, and in 1745 a power loom for the weaving of narrow goods, a patent for which was also granted. These inventions, however, so greatly aroused the anger of the working classes, who feared that the machines would entirely supersede hand labor, that they stole Kay's machines, wrecked his home and obliged him to flee to France, where he died in poverty.

KAY, John, Scotch painter, etcher and caricaturist: b. Dalkeith, 1742; d. 1826. He was a barber and worked at his trade until he was over 40 years of age; giving, however, all his spare time to painting miniatures, making etchings and drawing caricatures of the noted people and curious personages of Edinburgh who most attracted his attention. He showed decided talent in all three lines of endeavor and he gradually attracted attention by his work, especially his sketches which he disposed of to customers in the barber-shop. Finally in 1785, encouraged by the patrons of the shop and the friends his talent had made for him, he opened a shop for the production of etchings, caricatures and miniatures. He did a good business and became himself one of the noted characters of the city. His work, especially his portraits, appeared at the various art exhibits of Edinburgh from 1811 to 1822 and probably later. Consult Paton, Hugh, 'A Series of Original Portraits and Caricature Etchings by the Late John Kay' (Edinburgh 1838 and 1877).

KAY-SHUTTLEWORTH, SIR **James Phillips,** English educator: b. Rochdale, Lancashire, 1804; d. 1877. He began life as a bank

clerk, studied medicine and finally interesting himself in education and the exercise of the medical profession, he worked numerous reforms in English educational methods and became ultimately the founder of the English national system of elementary education. He was a pronounced free-trader and he gave much attention to the subject of public sanitary reforms in the city of Manchester, where he resided. As assistant poor law commissioner, an office he received in 1835, he paid much attention to education, establishing a normal school at Battersea (1839) where he worked out his own ideas, for the most part, at his own expense. These experiments and his reports of them formed a basis upon which the subsequently organized English system of primary public education was based. Among his works on education are 'Four Periods of Public Education' (1862); and numerous reports. He also published two novels, 'Scarsdale' (1860); and 'Ribblesdale' (1874).

KAYE, Sir **John William,** English military historian: b. Acton, Middlesex, 1814; d. London, 24 July 1876. He was for a number of years an officer in the Bengal artillery, but resigned in 1841. In 1856 he entered the home civil service of the East India Company and upon the transfer of the government of India to the Crown succeeded John Stuart Mill in the political department of the India office. His works consist of histories and biographies relating to the East, among them being 'A History of Afghanistan' (1851–53); 'History of the Administration of the East India Company' (1853); 'A History of the Sepoy War in India, 1857–58' (1864–75); 'Lives of Indian Officers' (1867); 'Essays of an Optimist' (1870).

KAZAKS. See Kirghiz.

KAZAN, kä-zän', Russia, a fortified city, capital of the government of the same name, on the Kazanka, about four miles above its junction with the Volga, 460 miles east of Moscow. It properly forms three towns — the kremlin or citadel, the middle town and the lower town. Many Mohammedan Tartars still reside here, engaged in business. It is a bishop's see and the seat of a university, founded in 1803, with an attendance of 1,200 students and a library of 235,000 volumes. Here are large soapworks and tanneries, also manufactures of iron and steel, woolens, cotton, lace and earthenware. It carries on an extensive trade. The caravans to Bokhara and China pass through Kazan. At a little distance from Kazan is an admiralty establishment, with a navigation school, magazines and a dock-yard, where vessels are constructed and sent down the Volga to the Caspian Sea. Pop. 138,100, including 30,000 Tartars.

KAZANLIK, kä-zän'lēk, city in Rumelia, Bulgaria, at the foot of the Balkan Mountains near Shipka Pass. It has been called the garden of roses on account of the great number of these flowers grown by the gardeners of the surrounding country for the extraction of oil of roses, which constitutes the chief industry of the city and the district. The town itself was captured by the Russian army (7 Jan. 1878) during the Russo-Turkish War. Pop. 11,000.

KAZINCZY, kŏz'ĭnt-sē, **Ferencz,** Hungarian dramatist and poet: b. Erhemlyén, 27 Oct. 1759; d. Izéphalom, 22 Aug. 1831. Educated in law, he early turned to literature at a time when no one had as yet dared to make of it a profession. With decided literary ability, he was forced to gain the greater part of his living, especially during the earlier years of his career, by making translations from foreign languages, including English, French, German, Latin and Greek. Notwithstanding his good classical education and his love for these languages, he was largely instrumental in forcing them from the controlling position they had held in the schools of Hungary and establishing the supremacy of the Magyar tongue. From the beginning of the 19th century to his death, a period of over 30 years, he was the undisputed leader of the Hungarian literary movement and of the "innovators," as the promoters of the Magyar literary party were called. Previous to this, in his younger and more ardent days, his revolutionary tendencies had led him into trouble. In 1793 he was arrested, tried for participation in the political conspiracy of Abbot Martinovics, convicted and condemned to death. This sentence was commuted to six years' imprisonment, which he served in government military prisons. His trial created great interest in Hungary owing to the fact that Kazinczy had already become a national character through the popularity of his works and his office of inspector of the national school of the district of Kaschan, a position he had held until 1791 and which he is believed to have lost on account of the revolutionary tone of much of his writings and his ultra-protestant views. After his imprisonment he became much less revolutionary in sentiment and expression and busied himself in promoting the growth of a truly national literature written in the Magyar tongue. Among his original works are 'Magyar Muzeum' (1788–92); 'Orpheus' (1790); 'Lanassa, a Tragedy' (1791); 'Magyar Regisegek' (Hungarian Antiquities, 1808); 'Poetai Berke' (1813); 'Reise' (1813); new ed., (1831). Numerous editions of his works have been published before and since his death. Of these the most extensive are that which appeared at Pesth in nine volumes, under his own supervision and consisting largely of translations (1814–16) and a collection of his original poems and other writings published at the same city (1843–44). Many partial editions have also appeared; one consisting of his plays, another (in popular form) of his poems, others of his translations and still others of his essays, sketches and travels. Even his voluminous correspondence has been published by the Hungarian Academy as important documentary material for the literary and political history of the first quarter of the 19th century. Though not really a great or original thinker, Kazinczy was really one of the greatest of benefactors of Magyar literature at a time when it was beginning seriously to assert itself. Through his translations of the more striking works of great German writers, such as Lessing, Wieland, Goethe and Klopstock and other notable literary masterpieces from Molière, La Rochefoucauld, Marmontel, Sterne, Shakespeare, Metastasio and the classical writers, he furnished the Magyar people with

a literature already made and done over into their own tongue in a most pleasing manner and in good literary form. At that stage of its history it was the best possible food for the rising school of young literary men who fed upon it, imitated it, as Kazinczy himself had done, and finally created a national literature. His numerous followers exaggerated his work and placed a higher literary value upon it than posterity has sustained. What he accomplished was in reality the rehabilitation of the Hungarian tongue which had lagged woefully behind in the literary march of Europe. At the beginning of the 19th century the Hungarian language had come face to face with the fact that it had neither the wealth of vocabulary nor the perfected literary form fitted to express the new ideas and the rising culture of the nation, most of which were being rapidly introduced from abroad or developed at home. At this moment, Kazinczy, liberated from his years of prison life, appeared upon the scene, his reform proclivities still strongly alive. The evolutionary condition offered him an opportunity which he eagerly seized upon. He boldly introduced new words wherever and whenever he had need of them to express his own thoughts in his original composition or in those of the galaxy of foreign authors whom he introduced to the Hungarian reading public. The purists rose in arms against him. Everywhere he met with opposition. All literary Hungary became divided into two bitterly hostile camps. Kazinczy's works were more than once burned by the public hangman. But the reform, being a necessity, eventually triumphed, though with many modifications of its exaggerated claims following the death of Kazinczy of Asiatic cholera at Széphalom in 1831. Kazinczy had two somewhat idealistic aims in view, to embellish the Hungarian language and to improve its facilities of expression, while at the same time improving its literary form and manner of thought. To this end he wrote critical essays on the works of Hungarian authors. This gave him the reputation of being the greatest living native literary critic and this, in turn, led to a very extensive literary correspondence, which alone amounted to over a score of volumes, all of which was used directly or indirectly to further the work of reform, his one great passion.

Bibliography.— Frigyes-Riedl, 'History of Hungarian Literature' (London 1909); Kont, 'Bibliographie française de la Hongrie' (Paris 1913); Petrik, 'Bibliographia Hungariæ' (Budapest 1885–1906); Reich, Emil, 'Hungarian Literature' (London 1900); Riedl, F., 'Hungarian Literature' (1906); Schwicker, 'Geschichte der ungarischen Litteratur' (Leipzig 1889).

KAZVIN, kăz-vēn', **KASVIN, KASBIN,** or **CASBIN,** a town in Irak-Ajemi, Persia, about 100 miles northwest of Teheran. It consists of an old and a modern town, the former being mostly a ruin of extensive proportions. Among these ruins are great walled enclosures and massive palaces and other buildings which, originally shattered and rendered uninhabitable by earthquakes, have become still more ruined through the same natural agencies. The modern town, which is connected by highway and caravan with the two great trade centres of Resht and Teherán, is a place of some considerable commercial and industrial importance. It is a centre of leather, cotton, silk and velvet trade and it exports rice, fish and raisins. It is a comparatively rapidly growing city. Pop. about 50,000.

KEA, a large olive-green parrot of New Zealand (*Nestor notabilis*) with the hawk-like beak of its race, which in its former wild condition fed chiefly upon insects, but since the introduction of sheep into the South Island (to which it is confined) has become a meat eater. These birds haunt the vicinity of slaughtering pens, and feed with avidity upon offal, sheepheads and the like. This led them to attack wounded sheep, or those with sores, and finally taught some of these parrots to alight upon the back of a sheep, pull out the wool and even tear away the living flesh. These injuries were usually upon the loins, and the fat about the kidneys seems to be the special attraction. So many keas have been killed by herdsmen that the species is now rare. (See KARA). Consult Buller, 'Birds of New Zealand' (1888).

KEACH, kēch, **Benjamin,** English author: b. Stoke Hammond, 1640; d. 1704. He became a Baptist preacher at the age of 19 and after an eventful life, which included imprisonment for his religious opinions, he finally became pastor of a London church where he was popular as a preacher. He wrote much of a controversial nature and published two stories allegorical in form which enjoyed considerable popularity, being republished as late as 1849. These bore the titles 'The Travels of True Godliness' (1683); 'The Progress of Sin, or The Travels of Ungodliness' (1684).

KEAN, kēn, **Charles John,** English actor; b. Waterford, Ireland, 18 Jan. 1811; d. Queensborough Terrace, Chelsea, London, 22 Jan. 1868. He was second son of Edmund Kean (q.v.). He made his first stage appearance 1 Oct. 1827 as Young Norval in 'Douglas.' In 1830 he visited the United States, where he was favorably received before he had made a London reputation. In 1850–59 he managed the Princess Theatre, where he introduced more elaborate machinery and setting than had yet been seen on the English stage, revived Byron's 'Sardanapalus,' and appeared (13 Jan. 1855) in his greatest rôle, Louis XI, in Boucicault's adaptation of de la Vigne's play of the name. His Hamlet was his chief tragic part, but he was best in melodrama. He withdrew from the stage 28 May 1867. Consult Cole, 'Life and Theatrical Times of Charles Kean' (1859); Cook, 'Hours with the Players' (Vol. II, 1881).

KEAN, Edmund, English tragedian: b. London, 4 Nov. 1787; d. Richmond, Surrey, 15 May 1833. His supposed parents were connected in a low capacity with the theatrical profession. He was early on the stage, and for several years wandered about the provinces, now as reciter and singer, now as tumbler in a circus and later as a member of itinerant companies. He married Miss Chambers, an actress in his company, in 1808. In 1814 he appeared at Drury Lane as Shylock. His triumph was decided and he at once commanded large salaries. Hazlitt and Lamb eulogized him. Coleridge said "To see Kean act is like reading

Shakespeare by flashes of lightning.» At Kemble's retirement in 1817 Kean took the foremost place on the English stage. He appeared in several other tragic rôles, among them Richard III, Hamlet, Lear, Sir Giles Overreach and Othello. In these characters he has perhaps never been equaled. He first came to the United States in 1820, when he was seen with enthusiasm in New York, Boston and Philadelphia. A second, but much less successful tour in 1826, was extended to Canada, where he was chosen a chief of the Huron Indians. His hold on the public remained uninterrupted until 1825, when he appeared in the character of corespondent in a divorce case. He never regained public favor; his dissolute habits also began to tell on him, and he made his last appearance in Othello, in company with his son Charles, in 1833, but broke down during the performance, and his death took place some three months later. Consult biographies by Barry Cornwall (1835) and F. W. Hawkins (1869), and Stirling's 'Old Drury Lane' (1881).

KEANE, James John, American Roman Catholic archbishop: b. Joliet, Ill., 26 Aug. 1857. Educated in his native town, Saint John's University, Minnesota, and the Grand Seminary, Montreal, Canada, he was ordained a priest in 1882. Serving in various ministerial and pedagogical capacities, among them that of president of Saint Thomas Seminary, Saint Paul, and that of pastor of the church of the Immaculate Conception in the same city (1892–1902), he became bishop of Cheyenne diocese, Wyoming, in the latter year, and nine years later he was raised to the archbishopric of Dubuque, Iowa.

KEANE, John, Baron, an Irish soldier: b. Belmont, County Waterford, 1781; d. 1844. Entering the army at the age of 13, he served in the Egyptian campaign, in Gibraltar, Ireland, Bermuda, Martinique (1809) and the Spanish Peninsular War from which he issued with the rank of major-general. In 1814 he commanded the British expedition to New Orleans and the following year he was knighted. Serving as governor and commander-in-chief of the British forces in the West Indies (1823–30) he won the rank of lieutenant-general. Three years later he became commander-in-chief at Bombay, and there, in 1839, he led the British into Afghanistan and captured Ghuzni, an exploit which won for him the rank and title of Baron Keane of Ghuzni and Cappoquin.

KEANE, John Joseph, American Roman Catholic prelate: b. Ballyshannon, Ireland, 12 Sept. 1839; d. Dubuque, Iowa, 22 June 1918. When seven years old he came to America with his parents, who settled in Baltimore, Md., pursued his classical studies at Saint Charles College, Baltimore, and later took a complete philosophical and theological course at Saint Mary's Seminary, where, on 2 July 1866, he was ordained priest. He was then appointed assistant pastor at Saint Patrick's Church, Washington, D. C., and about 12 years afterward, 25 Aug. 1878, was consecrated bishop of Richmond, Va. In this new field he labored indefatigably, much of his attention being bestowed upon the negroes, and when, in 1884, the American hierarchy decreed the foundation of the Catholic University, Bishop Keane was selected to devise plans for its organization. On 12 Aug. 1888 the university was formally opened, he being chosen its first rector, and under his efficient administration it attained most gratifying success. Its generous endowments and splendid equipment were the result of his tireless efforts, and when, in January 1897, his rectorship ceased, he left the institution established upon a solid basis. The next two years he spent in Rome, where his skill in oratory won due recognition and numerous favors were lavished on him by Leo XIII. In 1899 Bishop Keane returned to America at the earnest solicitation of the board of trustees of the university, and for two years labored to augment its endowments. In 1890 he delivered the Dudleian lecture at Harvard. On 24 July 1900 he was appointed to the archiepiscopal see of Dubuque, the pallium being conferred upon him by Cardinal Gibbons, 17 April 1901. He was likewise an ardent advocate of Catholic education. He resigned in 1911 and was appointed titular archbishop of Ciana. James John Keane succeeded him in 1911. He wrote on education, especially on the question of denominational schools; a selection from his writings, edited by M. F. Egan, appeared in 1902, as 'Onward and Upward.'

KEARNEY, kär'nĭ, **Denis,** American labor agitator: b. Oakmont, County Cork, Ireland, 1847; d. Alameda, Cal., 24 April 1907. He went to sea from 1858 to 1872, and in 1872 settled in San Francisco, becoming foreman of stevedores and later going into the draying business. In 1877 he began an agitation among the workingmen, his attacks being directed mostly against the rights of capital and the importation of Chinese labor. Large mass-meetings were held in the so-called «Sand Lots» near the city, and the movement grew rapidly in power and importance, but dominated entirely by Kearney. Finally he was able to pack a convention which adopted a new State constitution in the interests of his movement, and very detrimental to capital and property interests. In 1878 he visited the Eastern States, speaking in the large cities, but failed to gain an important following; on his return to California he gradually lost his influence and his party sank into obscurity. Consult the chapter «Kearneyism in California,» in Bryce's 'American Commonwealth' (Vol. II, New York 1910).

KEARNEY, Neb., the county-seat of Buffalo County, is located in the fertile Platte River Valley, 191 miles west of Omaha, on the Union Pacific, Chicago, Burlington and Quincy, Hastings and North Western railroads, with interurban electric railroad communication. It is on the Lincoln Highway which follows the line of the old Overland and Oregon trail of '49. It is half way across the continent, 1,733 miles from Boston and a like distance from San Francisco. In this community it was demonstrated that alfalfa could be raised without irrigation and from its original culture here its growth has spread over the Middle Western States and has become one of the most profitable crops of the farmers. This city is the centre of a vast agricultural and stock-raising industry. The first power canal dug in the State of Nebraska furnishes light and power to the city. It is 16 miles long and is so equipped that it takes the underflow of the

Platte River when the surface of the stream is absolutely dry. The canal can also be used for irrigation. The Kearney State Normal with an enrolment of 1,400 students and a teaching staff of 42 is located in Kearney; also the Kearney Military School, the Saint James Parochial School. The city school system consists of well-equipped High School and six ward schools. Kearney has 11 churches; a public library with 12,000 volumes, the largest opera house between Omaha and Denver; a country club that maintains one of the best natural golf courses in the west; a County Fair Association with well-kept grounds and the second largest fair in the State; a Chautauqua Association that does credit to the Chautauqua Idea; two hospitals; the State Hospital for Tubercular Patients; the State Industrial School for Boys; Lake Kearney, a beautiful sheet of water within the city limits; two daily newspapers; three parks and several manufacturing industries among which are two flour mills, grain elevators, concrete mixing machine factory, canning factory, bottling works, cigar factories, broom factory, foundry, alfalfa meal mill, advertising novelties, etc. Places of interest are, Old Fort Kearney, maintained by the government in the early 50's as a protection against the Indians to travelers on the Overland Trail; the mile bridge across the Platte River; 1733 Ranch and Lake Kearney. The first settlement was made here in 1872, it was incorporated in 1873 and received its first city charter in 1889. It is governed by a mayor and eight councilmen. The city owns its own water plant. Pop. 8,000.

KEARNS, Thomas, American politician: b. near Woodstock, Ontario, 11 April 1862. He attended the public schools until his father's removal to Holt County, Neb., in 1872, then worked on the home farm till he was 14. After several years spent as a freighter in Nebraska he removed to Utah in 1883, where he worked at first as a miner, becoming subsequently one of the owners of the Mayflower and Silver King mines. He was a member of the common council of Park City, Utah, in 1895, and was a delegate to the National Republican Convention the next year. He was also a delegate to the Philadelphia convention in 1900, and was a member of the United States Senate in 1901–05. He is largely identified with the mining interests of Utah and is also known as a railroad promoter.

KEARNY, Lawrence, American naval officer: b. Perth Amboy, N. J., 30 Nov. 1789; d. there, 29 Nov. 1868. Having entered the navy in 1807, he was active in the defense of the coast of South Carolina and States adjacent during the War of 1812, and in 1826 in command of the *Warren* effectually put an end to the depredations of the Greek pirates in the Levant. Promoted captain (1832), he was assigned (1841) to the command of the East India squadron, and began the negotiations for a commercial treaty between China and the United States, later concluded by the special envoy, Cushing. On his return voyage to the United States, Kearny stopped at the Hawaiian Islands to protest against the contemplated transfer of the islands to Great Britain. In 1867 he was made commodore on the retired list.

KEARNY, Philip, American soldier: b. New York, 2 June 1815; d. near Chantilly, Va., 1 Sept. 1862. He was graduated from Columbia in 1833, studied law, but in 1837 entered the United States army as lieutenant of the 1st dragoons, and in 1830–40 was in Europe for the study of the cavalry service of the French army, with which he fought in the Algerine war. In 1841 he was on the staff of General Scott, in 1846 resigned from the army, but soon afterward enlisted for the Mexican War, fought at Contreras and Churubusco, and at the close of the latter engagement charged and pursued into Mexico City the retreating enemy. He again resigned from the army in 1851, in 1859 entered the French service, and participated in the war in Italy, where he fought at Solferino. On 17 May 1861 he was appointed brigadier-general in the Union service, and given command of the 1st New Jersey brigade in the Army of the Potomac. Later he was assigned to the command of the cavalry of that army, and served conspicuously in the Peninsula. He was commissioned major-general of volunteers 7 July 1862, took part in the second Bull Run, and subsequently at Chantilly was shot while reconnoitering. Kearny was a brilliant cavalry leader, termed by Scott "the most perfect soldier" he ever knew. Consult De Peyster, 'Personal and Military History of Philip Kearny' (1869).

KEARNY, Stephen Watts, American general: b. Newark, N. J., 30 Aug. 1794; d. Saint Louis, Mo., 31 Oct. 1848. He entered the United States army in 1812 as lieutenant, and distinguished himself in the action at Queenstown Heights in the same year. He served throughout the war, and became, in June 1846, a brigadier-general. At the commencement of the Mexican War he commanded the "Army of the West," which marched from Bent's Fort on the Arkansas westward, and conquered New Mexico. Having established a provisional civil government in Santa Fé, he proceeded to California, and participated with his command in the battle of San Pascual, in December 1846. For his services in this campaign he was appointed brevet major-general, his commission being dated from the battle of San Pascual. He was governor of California from March to June 1847, but subsequently joined the army in Mexico, where he continued until the close of the war. He wrote 'Manual for the Exercise and Maneuvering of United States Dragoons' (1837); 'Organic Law'; 'Laws for the Government of New Mexico' (1846).

KEARNY, N. J., town in Hudson County, on Newark Bay, between the Passaic and Hackensack rivers, and on the Pennsylvania, the Lehigh Valley, the Erie and the Delaware, Lackawanna and Western railroads, opposite the city of Newark. The first permanent settlement was made in 1765, by Germans, and the place was called New Barbadoes. Later it became a part of Harrison, but in 1871 it was incorporated and named in honor of Gen. Philip Kearny (q.v.) who once lived in the place, and whose residence still stands within the limits of the town. It has several manufacturing establishments, the chief of which are linoleum works, celluloid works and thread factories. Other manufactures are golf balls, metal bedsteads, roofing material, brass novelties, lamps,

buttons, dyestuffs, fertilizers, roofing material and white metal. The town has a State Soldiers' Home, the Sacred Heart Industrial School for Boys, public and parish schools and nine churches. In Arlington, or the third and fourth wards, there are many fine residences with large and well-kept grounds. The government is vested in an alderman-at-large, practically a mayor without veto power, and a council of eight members, elected every two years. Pop. 21,967.

KEARSARGE, kēr'särj, the name of two mountain peaks of the White Mountains. (1) Mount Kearsarge in Carroll County, N. H., is 3,260 feet in height. The Federal vessel which sank the Confederate cruiser *Alabama* was named after this mountain. (2) Kearsarge Mount, in Merrimac County, N. H., is 2,943 feet in height. This mountain was once called Kyar-Sarga.

KEARSARGE, The, a ship of the United States navy which played a conspicuous part in the only sea fight of the Civil War, when it destroyed the *Alabama,* a ship built in England at Birkenhead on the Mersey by the Lairds under contract with the Confederate States at a cost of $250,000, and sent to sea as a privateer, in the spring of 1862. The vessel was known as "290." The name indicated only that the vessel was number 290 in order of launch from the builders' yards. Protest had gone to the British government from the American Minister at the Court of Saint James, Charles Francis Adams (q.v.), against the sailing of the ship. Meantime Capt. Raphael Semmes and 24 young naval officers from the Confederacy arrived in Liverpool with commissions in their pockets to take command. For sake of prudence Captain Semmes ordered the "290" to sail for the island of Terceira, one of the Azores, under command of Captain Butcher, a young officer of the British merchant marine. Semmes immediately followed as a passenger on an English ship. His armament had been already shipped to the same rendezvous. At Terceira the privateer ran up the Confederate colors, took her name as ordered by the Confederate government, and received on board as armament two pivot guns amidships and six 32-pounders, eight guns in all. The manning of the ship was 25 officers in all and about 120 men. Stores for a long cruise were taken aboard, and the vessel, equipped for both steam and sail, entered promptly upon her memorable career. On the night of 11 Jan. 1863, the United States steamer *Hatteras* engaged the *Alabama* off the coast of Texas and was sunk. The *Alabama* roved the seas for two years, seeking the commerce of the United States from both hemispheres. The privateer was supposed to have destroyed one-half the American merchant marine, then second in tonnage only to that of Great Britain among the nations. On the forenoon of 11 June 1864 the *Alabama* anchored in the port of Cherbourg, France. The intent of Captain Semmes was to dock his ship for much-needed repairs. While Semmes was awaiting the consent of the Emperor Napoleon III to the use of the government docks, the news of the arrival of the privateer spread over the land. Captain Winslow, commanding the United States ship *Kearsarge,* lying at Flushing, was apprised of the fact by Dayton, United States Minister to France, and made for Cherbourg, sailed into the harbor and out without anchoring, but took position outside. Semmes rightly construed the conduct of the *Kearsarge* as the equivalent of a challenge to combat. The *Alabama* steamed out on Sunday morning in faultless weather. The *Kearsarge's* machinery was additionally protected by a chain-armor covered with one-inch deal boards. However, as that part of the ship was struck but twice, the armor was of no material aid. The *Kearsarge* had 163 men and seven guns; the *Alabama* 149 men and eight guns. The metal carried by the *Kearsarge* guns was heavier than the metal of the *Alabama* guns. The battle was fought in a circle and lasted one hour and two minutes, resulting in the sinking of the *Alabama.* In the first 30 minutes the *Alabama* lodged a rifled percussion shell near the sternpost of the *Kearsarge,* which from a faulty cap failed to explode. The shell is now to be seen, in the wood where it buried itself, in the ordnance museum of the navy yard at Washington. Captain Semmes remained on the deck of his ship until it went down. He and 41 others from the sunken vessel were rescued by the *Deerhound,* a pleasure yacht belonging to John Lancaster, an Englishman. Many persons had come from Paris to view the battle and the hills along the coast were lined with spectators as it progressed. After the close of the war the British government paid an indemnity to American shippers of $15,500,000, representing losses inflicted by the *Shenandoah* (in part), the *Florida* (in full), and the *Alabama* (in full). Consult Semmes, 'The Cruise of the Alabama' (1864); Bullock, 'Secret Service of the Confederate States' (1883); Sinclair, 'Two Years on the *Alabama*' (1895); 'Battles and Leaders of the Civil War' (1887–88) edited by Johnson and Buell; Edge, 'An Englishman's View of the *Alabama-Kearsarge* Battle' (1909).

KEARY, kēr'rĭ, **Annie,** English novelist: b. Bittan near Wetherby, Yorkshire, 3 March 1825; d. Eastbourne, Sussex, 3 March 1879. Beginning a literary career with books for children, she made her reputation with stories of Irish life and became very popular, 'Castle Daly' (1875) being her best work. Among other fictions by her are 'Clemency Franklyn' (1866), and 'A Doubting Heart,' left unfinished at her death and completed by Mrs. Katharine Macquiod. She also published such historical works as 'Early Egyptian History,' and 'The Nations Around.'

KEARY, Charles Francis, English novelist: b. 1848; d. 26 Oct. 1917. He was educated at Cambridge University and was for some years in the Department of Coins in the British Museum. In 1882 he published 'The Outlines of Primitive Belief' and 'The Mythology of the Eddas,' both works now superseded by later research, while 'The Vikings in Western Christendom' (1890) is still a standard book on the subject. The projected second volume was never written. His first novel, 'A Marriage de Convenance' appeared in 1889, followed by 'The Two Lancrofts' (1893); 'Herbert Vanlennart' (1896); 'The Journalist' (1898); 'High Policy' (1902); 'Bloomsbury' (1905); 'The Mount' (1909), none of which can be said to have enjoyed a large public cir-

culation, though they were highly thought of in the limited literary circles. After the style of the great Russian writers, Keary aimed at depicting life in its chaotic reality and avoided conventional methods of selection and arrangement. The finest of his prose works is 'The Wanderer' (1888), and a little book of weird short sketches, 'Twixt Dog and Wolf' (1901).

KEASBEY, kēz'bĭ, **Lindley Miller,** American political economist: b. Newark, N. J., 24 Feb. 1867. He was graduated from Harvard in 1888 and went abroad to study at Strassburg. He was appointed professor of political science at the University of Colorado in 1892, where he remained for two years, and in 1894 became professor in the same department at Bryn Mawr. In 1905 he was appointed professor of political science at the University of Texas, becoming professor of institutional history there in 1911. He has written a number of monographs and magazine articles, also 'The Nicaragua Canal and the Monroe Doctrine' (1896); and has translated 'The Economic Foundations of Society,' from Loria.

KEATS, John, English poet: b. London, 29 or 31 Oct. 1795; d. Rome, 23 Feb. 1821. He was the eldest child of Thomas Keats, employee and son-in-law of a livery-stable keeper named Jennings, and was born at the stable in Finsbury Pavement. There were four other children, three of whom reached maturity, George, Thomas and Frances (Mrs. Llanos). In 1804, Thomas Keats, who like his wife, Frances, seems to have been a strong character, died from a fall from his horse. His widow soon remarried, but was speedily forced to leave her new husband and to reside with her mother at Edmonton, where she died, after a rapid decline, in 1810.

Meanwhile the bovs had been placed at Mr. John Clarke's school at Enfield, where John distinguished himself by his manly pugnaciousness and, later, by his zeal for literary studies, particularly mythology. He formed a friendship with the master's son, Charles Cowden Clarke (q.v.), an under teacher, who encouraged his literary tastes; but unfortunately Keats' guardian, in 1810, took him from school before he had begun Greek, and apprenticed him for five years to a surgeon at Edmonton.

He was still near enough to young Clarke to profit from the latter's influence, and Elizabethan poetry, especially 'The Faerie Queene,' awoke his poetic genius. His earliest known poem, 'Imitation of Spenser,' dates probably from 1813. The study of medicine became distasteful to him and a break with Hammond, the surgeon, followed in 1814. Keats went to London, studied fitfully in the hospitals, and more and more gave himself up to reading and writing verse. The best of his early poems, the 'On First Looking into Chapman's Homer,' seems to date from the summer of 1815, and was composed after a night of reading with Clarke. Besides this friend certain fellow students and his brothers formed Keats' chief society. In the winter of 1816 Clarke introduced him to Leigh Hunt (q.v.) whose influence upon him was at first very strong. Through Hunt Keats was led to widen his reading, especially in the direction of Italian poetry, and to develop an appreciation of the arts; but the elder poet also encouraged his new protégé's luxuriant sentimentality and, through his own unpopularity, prepared the way for the critical hostility which Keats encountered as a member of the so-called «Cockney School.»

The first of his poems to be printed was the sonnet 'O Solitude,' which appeared in Hunt's *Examiner* for 5 May 1816. A little later Keats, who had previously been appointed a dresser at Guy's Hospital, passed his examination as licentiate at Apothecaries' Hall; but we hear more of literary plans and of acquaintances, such as Shelley and John Hamilton Reynolds, than of preparations for practice. He was much at Hunt's cottage at Hampstead, he visited the sea shore, he wrote epistles in verse and prose to friends and relatives. By the winter of 1816–17 he had become intimate with the painter, Haydon (q.v.), had published several sonnets in *The Examiner,* and had made up his mind definitely to abandon medicine for poetry. His first volume 'Poems by John Keats,' with a dedication to Hunt, was published early in March 1817.

The book, naturally, fell flat. Keats was still immature in thought and feeling, he had reacted too far from the pseudo-classical taste of the majority of readers toward the unrestrained luxuriance of style of the later Elizabethans, and he had submitted too unreservedly to the mawkish and shallow æstheticism of Hunt. The young poet took his disappointment well and resolved to improve himself by study. In April 1817 he went alone to the Isle of Wight, then with his brother Tom he visited other places, and by midsummer he was domiciled with both his brothers at Hampstead, where he saw much of literary and artistic friends, including Charles Wentworth Dilke, Charles Armitage Brown and the painter, Joseph Severn. More important for his poetical development, however, was the growing influence of Shakespeare and of the loftier, more spiritual portion of Wordsworth's verse, which may be seen in 'Endymion.' This ambitious poem was begun on the Isle of Wight, steadily labored upon during the summer and fall despite distractions such as a visit to Oxford, and finished at the end of November 1817, at Burford Bridge, near Dorking. Keats spent the winter of 1817–18 in London, seeing 'Endymion' through the press, frequenting theatres, and having a rather gay time with his friends. Before 'Endymion' was published in April 1817, he had begun with Reynolds the experiment of making metrical versions of tales from Boccaccio, and in 'Isabella, or the Pot of Basil' he had given evidence, not only of maturing thought and of increasing control of his emotions, but of a manly faculty of self-criticism that enabled him to perceive without flinching the faults that jostled the beauties of 'Endymion.'

The last-named poem received a few favorable reviews, but made little impression on the public. Still fascinated with Greek mythology, Keats chose another subject from it, that of the fall of the Titans; but, before beginning 'Hyperion' he wisely resolved to study a more restrained model than his beloved exuberant Elizabethans — to wit, Milton. Meanwhile his brother George married and removed to Kentucky, and Keats with Armitage Brown took a tour, partly on foot, through the Lake Region and a portion of Scotland. Exposure and

strain undermined Keats' health so much that a physician at Inverness had to order him home. He reached London in August 1818, where the sad task awaited him of nursing without hope his consumptive brother Tom through more than three months of decline. Just at this time an ironical fate decreed that the *Quarterly* and *Blackwood's* should publish their now notorious diatribes upon 'Endymion' (by John Wilson Croker and, probably, J. G. Lockhart, respectively). Keats on the whole bore the attacks well; but unfortunately Byron and Shelley have made the world think otherwise.

During the fall of 1818 Keats began 'Hyperion,' and wrote long letters to George and his wife in America. He also made the acquaintance of a handsome girl of 17, Miss Fanny Brawne, and speedily falling in love, became engaged to her. Rarely at his best in his relations with women, owing partly perhaps to his antecedents, partly to his sensuousness, partly to the struggles of his spirit to escape from its actual environment to the ideal world of beauty and romance, Keats gave himself up to this passion with an abandonment that might be described as disgusting, did not one make allowances for his slowly failing health.

After the death of Tom Keats, 1 Dec. 1818, the poet resided for a time with Armitage Brown at Wentworth Place. Here he not only worked at 'Hyperion,' but wrote many of the poems that mark the zenith of his genius, such as 'The Eve of Saint Agnes,' the odes 'On a Grecian Urn,' 'To a Nightingale,' and 'To Psyche,' and the ballad 'La Belle Dame sans Merci.' It was an extraordinary six months' work (December 1818–May 1819) for an ailing poet in his 24th year. And he was not merely sick in body but poor in purse, most of his patrimony having been tangled up by his guardian, or spent, or loaned to impecunious friends. Other friends, like Brown, stood by him, however, though this fact can scarcely have made the marriage he dreamed of seem much more possible. He took summer excursions, wrote on a tragedy, 'Otho the Great,' with Brown, and completed his own 'Lamia,' in some respects the most individual and promising of his narrative poems. He abandoned 'Hyperion,' rightly judging that it was too Miltonic, yet he did not cease to form literary plans and to face the present and the future bravely. But on his return to London, he came once more under the influence of Miss Brawne, and he lost ground in health, courage and literary power. His work in the drama and in satire proved on the whole unavailing; he recast 'Hyperion' for the worse ('The Fall of Hyperion'); and he lost his cheerfulness, becoming moody, suspicious and somewhat dissipated.

Early in February 1820 he had his first hæmorrhage from the lungs and was confined for several weeks, Brown being his indefatigable nurse. With Fanny Brawne, who was living next door, he kept up a correspondence which many of his admirers could spare. When he was stronger, Brown having left for Scotland, Keats occupied himself by seeing through the press his third volume — one of the most memorable in the history of our literature, for it can scarcely be disputed that in color and form latter-day English poetry owes more to Keats than to any other writer among the moderns. It was entitled 'Lamia, Isabella, The Eve of Saint Agnes and Other Poems,' and was welcomed, not only by friends like Hunt, but by such a critic as Jeffrey, in the *Edinburgh*. It appeared early in July 1820, just after two hæmorrhages had shown that its author must be soon cut short in what promised to be nothing less than a marvelous career.

During his new illness, Keats was kindly nursed by the Hunts; then ungrounded suspicions of their friendship caused him to leave them, and he was welcomed by Mrs. Brawne and her daughter. Becoming more tranquil, he determined to see what the climate of Italy could do for him, and with Severn he sailed for Naples in September. On the voyage he wrote his last poem, the fine sonnet 'Bright star, would I were steadfast as thou art.' After reaching Rome about the middle of December, he suffered many violent attacks of fever and pain; then he lingered in a calmer state of mind and body until death took him from the arms of the faithful Severn, in the early morning of 23 Feb. 1821. He was buried three days later in the old Protestant cemetery at Rome, and on his tomb was placed at his desire the non-prophetic epitaph. "Here lies one whose name was writ in water." In 1881 Severn was laid by his side; long before (December 1822) the ashes of the author of 'Adonais' had been buried nearby.

In person Keats was small, but evidently in his early years strong and well made. His features were clear cut and his eyes large, dark and full of meditative depth. In character he seems to have been essentially open, kindly and manly. That his social status and his exceptionally sensuous nature were without deleterious effects upon his life, as well as upon his poetry, it would be idle to assert; yet it would be equally beside the mark to think of him chiefly as a hyperæsthetic anomaly among the men of his day. He was far more than a lower middle-class Briton of the Regency; but he was also more than the neo-Greek, or the neo-Elizabethan, or the idolatrous priest of beauty that some have fancied him. He was a wonderfully endowed poet of strong human interests, keen intelligence, ever deepening moral sense, extraordinary sensitiveness to physical impressions — not only upon eye and ear, but upon taste and touch — growing appreciation of artistic form, and steadily developing power of self-control. He filled all the rôles his admirers have claimed for him; but he filled them, or was learning to fill them, in combination — a fact which makes him greater than even some warm admirers have fancied.

His rank among English poets is not easy to determine. In a sense Matthew Arnold was right when he declared that Keats "is with Shakespeare." It might be added that he is with Milton also; but he is with these supreme poets only in respect to certain qualities of genius. He is obviously not with them in sustained power, in unexcelled majestic achievements, in breadth and duration of popular appeal. Even when he is compared with his contemporaries he is found to lack, in a measure, Byron's passion and cosmopolitan influence, Wordsworth's power to calm and ennoble the spirit and quicken the vision, Coleridge's ineffable secret of casting glamour, and Shelley's gift of interpenetrating poetry and life with the radiance of a pure idealism. In quantity of

approximately perfect work he falls short; of course, through no fault of his own. The juvenile volume of 1817 and 'Endymion,' though in a sense the latter confirms the truth of its first line that "a thing of beauty is a joy forever," are on the whole immature, and the posthumous poems and letters, though abounding in merits, are uneven in value and below the highest excellence. It is mainly on the magnificent volume of 1820 — on the impressive artistic mastery shown in 'Lamia,' on the romantic charm of 'The Eve of Saint Agnes,' on the tender pathos of 'Isabella,' on the matchless harmonies, the deep, subtle appeal to mind and heart, and the indescribable richness of the great odes, on what it is hardly rash to call the dewy felicity of some of the less elaborate lyrics that the claim of Keats to rank among the greater English poets rests, and rests securely. To lovers of poetry he has long been almost an idol: the public has scarcely yet realized the full significance of his noble, and in some respects unique, genius.

Bibliography.— Keats' poems were first collected, with those of Coleridge and Shelley, in 1829. In 1848 R. M. Milnes (Lord Houghton) published the 'Life, Letters and Literary Remains' (revised 1867); biographical material then began to accumulate through such books as Leigh Hunt's 'Autobiography.' In 1876 Mr. H. B. Forman edited the letters to Fanny Brawne, and in 1885 the works in prose and verse in four volumes (reissued and augmented in 1889). In 1883 J. G. Speed, of the American branch of the family, issued a volume of 'Letters and Poems.' In 1887 brief lives of the poet appeared in 'Great Writers' and the 'English Men of Letters' by W. M. Rossetti and Sidney Colvin respectively. In 1891 Mr. Colvin edited 'Letters of John Keats to His Family and Friends.' In 1895 Mr. Forman issued the complete correspondence (1 vol.), and in 1901 what is the best edition of the entire works (5 vols.). The [American] Cambridge edition of the poems and letters is also good. There are numerous editions of the poems, including several by Lord Houghton (especially the Aldine, 5th edition, 1890), one by W. T. Arnold (1883), the 'Golden Treasury' by F. T. Palgrave (1884), and the latest and best by E. de Sélincourt (1905). On 18 May 1914 the London *Times* published two previously unpublished sonnets by Keats. Books dealing with Byron, Shelley and Hunt usually touch on Keats, and the mass of criticism upon him is large. Among his chief critics are Matthew Arnold, Robert Bridges, DeQuincey, Dowden, Leigh Hunt, 'Imagination and Fancy'), Lowell, Masson, J. M. Robertson, Swinburne and Woodberry. Consult also Sharp's 'Life and Letters of Joseph Severn' (1892); Marie Gotheim's 'John Keats, Leben und Werke' (1897); Colvin, S., 'John Keats; His Life and Poetry; His Friends, Critics and After-Fame' (New York 1917). See also ENDYMION; HYPERION; ISABELLA; LAMIA; ODE TO A GRECIAN URN; ODE TO A NIGHTINGALE.

WILLIAM P. TRENT,
Professor of Literature, Columbia University.

KEBBEL, Thomas Edward, English journalist: b. 1826; d. November 1917. Educated in London and Oxford, he was called to the bar in 1862; but he had already drifted into journalism in 1855, and for 60 years he strenuously followed that profession. In 1873 he joined the *Standard* in London, and contributed political, biographical and literary articles to its columns until that paper ceased publication in 1916. He also wrote freely on sporting matters and country life. Kebbel was for many years a close personal friend of Disraeli (Lord Beaconsfield), whose biography he wrote. Among his publications in book form are lives of Lord Derby, the poet Crabbe, a collection of Beaconsfield's speeches, 'Essays on History and Politics,' and a history of Tory administrations. His 'Agricultural Labourer' is a successful study of country life and ways. In 1911 he published a volume of recollections of his long career entitled, 'The Battle of Life.'

KEBLAH. See KIBLAH.

KEBLE, kē'bl, **John,** English Anglican clergyman and poet: b. Fairford, Gloucestershire, 25 April 1792; d. Bournemouth, Hampshire, 29 March 1866. He was educated at Corpus Christi College, Oxford, and took his degree in 1811 with high honors. Going to Oriel College as a Fellow, he became tutor and public examiner, and in 1831–41 was professor of poetry. He took priest's orders in 1816 and was his father's curate for some time. He was appointed vicar of Hursley, near Winchester, in 1836, a position which he held until his death. To the world at large he is best known as the author of the famous volume of religious verse, 'The Christian Year.' He also wrote the 'Lyra Innocentium,' and, with Newman and others, the 'Lyrica Apostolica.' He was a zealous High Churchman, and wrote several of the celebrated 'Tracts for the Times' (1833). Keble College, Oxford, was founded as a memorial of him. Consult 'Lives' by J. T. Coleridge (1869), and Lock (1892); Yonge, 'Musings over the Christian Year' and 'Lyra Innocentium'; Shairp, 'Studies in Poetry and Philosophy' (1868); Newman, 'Apologia pro Vita sua' (1864); Yonge, 'John Keble's Two Parishes' (1898). See CHRISTIAN YEAR, THE.

KEBLE COLLEGE, one of the colleges of Oxford University, built by subscription as a memorial of the Rev. John Keble, the author of 'The Christian Year,' and incorporated in 1870 by royal charter. The intention of its founders was to establish a "college wherein sober living and high cultivation of mind may be combined with Christian teaching based upon the principles of the Church of England." It is governed by a warden and a council composed of not less than nine and not more than 12 members. There are from 250 to 300 undergraduates in attendance. One of the adornments of its beautiful chapel is Holman Hunt's famous picture, 'The Light of the World.'

KECSKEMET, kĕch'kĕ-māt, city in Pest, Hungary, about 65 miles from Budapest. It is noted for its great annual cattle fair. It is the centre of an agricultural district which is engaged principally in the raising of grapes, and other fruit, tobacco, grain, cattle and vegetables. Large quantities of wine are exported and a very extensive trade is carried on in brick and flour, which are home products, and apples and apricots. Pop. 70,000, principally Magyars.

KEDAH, or **KIDAH,** a western native state in the Malay Peninsula. It is a British protectorate but is ruled by a native sultan. Area, 3,800 square miles. Kedah has made great progress since it came under the control of the British government. The capital, Alor Star, is already connected with the rest of the isthmus and through that, with all India, by means of a branch of the Federated Malay States Railroad; and other side lines are planned or in actual process of construction. This line has helped materially to develop the trade of the state in rice, tapioca and rubber and other native products which continue to increase from year to year. Much of the Kedah trade is with the Straits Settlements. Pop. about 250,000.

KEDAR'S TENTS, an expression borrowed from Psalms cxx, 5: «Woe is me, that I sojourn in Mesech, that I dwell in the tents of Kedar.» It conveys an idea of unsatisfactory or uncongenial environment.

KEDDIE, Henrietta, «SARAH TYTLER.» Scottish novelist: b. Cupar, Fifeshire, 4 March 1827; d. 6 Jan. 1914. From 1848 to 1870 she was joint owner of a girls' school in her native town, and from 1870 to 1884 was engaged in literary work in London. She afterward resided in Oxford. Her best work is 'Citoyenne Jacqueline' (1865), a well-told story of the French Revolution. Among other works of hers are 'Papers for Thoughtful Girls' (1862); 'St. Mungo's City' (1885); 'Six Royal Ladies of the House of Hanover' (1898); 'Women Must Weep' (1901); 'Three Men of Mark' (1901); 'The Machinations of Janet' (1903); 'The Countess of Huntingdon and Her Circle' (1907); and an interesting history of her family, 'Three Generations' (1911).

KEDGE, a small anchor used for the handling of ships under various conditions, generally while in the harbor. The kedge has an iron stock and is frequently used as an ordinary anchor for small vessels and boats. The English sailor, who has forgotten that kedge means, in itself, anchor, frequently speaks of a kedge-anchor.

KEDGE-ANCHOR, a small ship or boat's anchor attached to an iron stock and generally used in harbors and rivers. See KEDGE.

KEDZIE, Robert Clark, American chemist: b. Delhi, N. Y., 1823; d. 1902. Graduated from the University of Michigan he took up medicine and served as a doctor in the Northern army during the Civil War. Becoming professor of practical chemistry in the Michigan Agricultural College he developed the science of agricultural chemistry along original and practical lines which attracted great attention and largely helped the development of scientific agriculture in the United States and Canada.

KEEBLE, Samuel Edward, English author: b. London, 1853. Educated at Didsbury College he became a minister of the Wesleyan Methodist Church in 1876 in the service of which he has led a very active life, among his activities being the foundation of the Wesleyan Union for Social Service. Among his published works are 'Industrial Day Dreams' (1896); 'Christianity and our Wages System' (1905); 'The Ideal of the Material Life' (1908); 'A Legal Minimum Wage' (1912).

KEEFE, Daniel J., American labor leader: b. South Chicago, Ill., 1855. From the position of a laborer he attained high rank and influence in labor societies. At the age of 27 he was president of the Lumber Unloaders' Association; and 11 years later he became president of the International Longshoremen, Marine and Transport Workers' Association. After holding various important labor offices he became vice-president of the American Federation of Labor, member of the Industrial Peace Commission at Washington (1906) and United States Commissioner-General of Immigration (1908–13).

KEEFER, kē'fẽr, **George Alexander,** Canadian engineer: b. Cornwall, Ontario, 1836; d. 1912. Educated at Upper Canada College, Toronto, as engineer, he entered the employ of the Grand Trunk Railway as surveyor. At the age of 36 he became engineer to the government of Canada, working on railway constructing and survey until 1886; during which period he built an important section of the Canadian Pacific Railway and later on constructed the waterworks system of the city of Vancouver. After serving from 1900 as resident engineer of the Dominion Public Works in the province of British Columbia, he became head of a commission of Canadian engineers appointed by a Canadian syndicate to make a report upon the proposed route of the Trans-Siberian Railway between Vladivostok and the Amur River. This report, which was made, was subsequently used by the Canadian company for the building of the section of the road from Vladivostok.

KEEFER, Samuel, Canadian engineer: b. Thorold, Ontario, 22 Jan. 1811; d. 1896. He was a brother of T. C. Keefer (q.v.). In 1841–53 he was chief engineer of the government Board of Public Works, in 1853 was appointed resident engineer of the Grand Trunk Railway, and in 1857–64 was government inspector of railways and deputy commissioner of public works. He completed in 1869 the Niagara Falls suspension bridge, then the longest existing single-span structure.

KEEFER, Thomas Coltrain, Canadian engineer: b. Thorold, Ontario, 4 Nov. 1821; d. Ottawa, 7 Jan. 1915. He was a brother of Samuel Keefer (q.v.). He was educated at Upper Canada College (Toronto), began practice as a civil engineer in 1838, and in 1850 was appointed by the government to survey the rapids of the Saint Lawrence and explore the region between the headwaters of the Saint John and the Saint Lawrence. In 1851 he became engineer-in-chief of the Toronto and Kingston section of the Grand Trunk Railway, and made surveys at Montreal for the present Victoria bridge across the Saint Lawrence. He wrote 'The Philosophy of Railways' (1849); and an essay on 'The Influence of the Canals of Canada on her Agriculture' (1850).

KEELER, kē'lẽr, **James Edward,** American astronomer: b. La Salle, Ill., 10 Sept. 1857; d. San Francisco, Cal., 12 Aug. 1900. He was graduated from the Johns Hopkins University in 1881, was appointed assistant to Prof. S. P. Langley (q.v.) in the Mount Whitney (Cal.) expedition (1881), was in 1881–83 at the Allegheny Observatory, and after study in Germany (1883–84), was appointed assistant at Lick Ob-

servatory (1886), and later astronomer there (1888). In 1891–98 he was active at the Allegheny Observatory as its director and professor of astrophysics in the Western University of Pennsylvania, and from 1898 until his death was director of the Lick Observatory. His spectroscopic work included valuable studies of the nebula in Orion and of Saturn's rings.

KEELEY, kē'lĭ, **Leslie E.**, American physician: b. in 1842; d. Los Angeles, Cal., 21 Feb. 1900. He was graduated at Rush Medical College (Chicago) in 1863, was a surgeon in the Federal army during the Civil War, practised medicine at Dwight, Ill., there opened (1880) a sanitarium for the cure of inebriety and the use of narcotics, and later established branches. His system was based on a secret compound said by him to contain bichloride of gold, and hence called the "gold" cure. He published 'The Morphine Eater' (1881).

KEELEY, Mary Anne Goward, English comic actress: b. Ipswich, 1806; d. London, 12 March 1899. She made her first appearance in Dublin in 1823; and two years later she went to London where she joined a Covent Garden company and married one of its prominent members, Robert Keeley (q.v.) in 1829. She made a great reputation for herself in important parts like Nerissa (in the Merchant of Venice), Smike (in Nicholas Nickleby), Sairey Gamp and Betty Martin. In company with her husband she toured the United States (1836–37) where she was everywhere received enthusiastically. On their return to England, the Keeleys took over the Lyceum Theatre in London, which they managed very successfully from 1844 to 1847. After 12 years' further success Mrs. Keeley retired from the stage at the age of 53, a retirement which was destined to last 40 years. Consult Goodman, 'The Keeleys on the Stage and Off' (London 1895); Lewes, 'On Actors and the Art of Acting' (New York 1878); Scott, 'The Drama of Yesterday and To-day' (London 1890).

KEELEY, Robert, English comic actor: b. London, 1793; d. London, 1869. After playing in comic parts throughout the interior of England he reached the London stage in 1818. He almost at once became a favorite in important comic rôles like Touchstone Jimmy Green (in 'Tom and Jerry'), Mr. Bounceable (in 'What Have I Done?'), Peter Pall Mall (in 'The Prisoner of War') and Sir Andrew Aguecheek. He married Mary Anne Goward in 1829. (See KEELEY, MARY ANNE GOWARD). Consult Goodman, 'The Keeleys on the Stage and Off' (London 1895); Lewes, 'On Actors and the Art of Acting' (New York 1878); Marston, 'Our Recent Actors' (London 1890); Scott, 'The Drama of Yesterday' (London 1890).

KEELHAULING, the dragging of an offender in the navy underneath the ship across the keel from side to side. This punishment was at one time common in the British and Netherlands navies; and was greatly dreaded by seamen and marines.

KEELING ISLANDS. See Cocos.

KEELSON, or **KELSON,** kĕl'son, a line of timbers on the middle of the floor, timbers of a ship over the keel. They are jointed and bolted together, and, by means of long bolts, they help to bind the floor-timbers to the keel. In iron vessels a combination of steel or iron plates takes the place of the timber keelson of the wooden ship. The word which was also formerly written "kilson" and "kelsine" appears, in one form or another, in all the Norse and Germanic tongues.

KEELY, John Ernest Worrell, American adventurer: b. Philadelphia, Pa., 3 Sept. 1837; d. there, 18 Nov. 1898. In early life he was a carpenter. Prior to 1872 he became interested in music, and afterward claimed that the tuning-fork had suggested to him a new motive power. In 1874 a stock company was formed for the purpose of supplying funds for the perfection and promotion of the alleged discovery. Keely built and destroyed many models, gave exhibitions at which numerous remarkable and unexplained effects were produced, but never attained any important result. Upon his death it was found that the so-called Keely motor was operated by an invisible compressed-air apparatus, and that the entire scheme was fraudulent.

KEELY MOTOR. See KEELY, J. E. W.

KEEN, Dora, American explorer: b. Philadelphia, 1871. Educated at Bryn Mawr College, she returned to Philadelphia, to interest herself in civic reforms while holding responsible civic positions. She has traveled extensively throughout the continents of the eastern and western hemisphere and become noted as a mountain climber and as an Alaskan explorer. She has written much for geographical and other magazines and is known as a lecturer.

KEEN, kēn, **William Williams,** American surgeon: b. Philadelphia, 19 Jan. 1837. He was graduated at Brown University in 1859, and from Jefferson Medical College in 1862; and during the Civil War period was an assistant surgeon in the Federal army. He then studied in Europe 1864–66; was at the head of the Philadelphia School of Anatomy 1866–75; and at the same time lecturer on pathological anatomy at Jefferson Medical College. From 1875 to 1890 he was professor of artistic anatomy at the Pennsylvania Academy of Fine Arts, and also of surgery at the Women's Medical College 1884–89, and of surgery at Jefferson Medical College till 4 Jan. 1907 when he became professor emeritus.

In 1912, on the 50th anniversary of his graduation, the Jefferson Medical College gave him the honorary degree of Sc.D. He has also received the degree of LL.D. from Brown University (1891), Northwestern and Toronto universities (1903), The University of Edinburgh (1905), Yale University (1906), University of Saint Andrews (1911); an honorary M.D. from University of Greifswald (1906) and honorary Ph.D. from the University of Upsala (1907). He is the senior member of the Corporation of Brown University, having been elected in 1873. He was elected president of the American Surgical Association in 1898; of the American Medical Association in 1899; of the College of Physicians of Philadelphia in 1900; of the Congress of American Physicians and Surgeons in 1903 and of the International Congress of Surgery for the session of 1917, and has been president of the American Philo-

sophical Society since 1907. He is also foreign corresponding member of the Surgical Society of Paris, the Belgian Surgical Society, the Clinical Society of London. He is an honorary Fellow of the Royal College of Surgeons of England and the Royal College of Surgeons of Edinburgh, of the German, the Italian, the Palermo Surgical societies, the Berlin Medical Society, a Fellow of the American Academy of Arts and Sciences and of the American College of Surgeons. He is the author of 'History of the First Baptist Church of Philadelphia' (1898); 'Surgical Complications and Sequels of Typhoid Fever' (1898); 'Addresses and Other Papers' (1905); 'Animal Experimentation and Medical Progress' (1914). He is also editor of 'Gray's Anatomy'; of the 'American Text Book of Surgery'; of 'Keen's System of Surgery'; and of a number of other similar publications. He has written a very large number of articles in various medical and other journals.

KEENE, Charles Samuel, English artist, illustrator and humorist: b. 1823; d. 1891. He began to study architecture, only to give it up for the study of wood engraving. Gaining some reputation on the *London News (Illustrated)*, he attracted the attention of *Punch*, the staff of which he joined in 1851 and continued on it until his death. Keene also won a reputation as a book illustrator and etcher. Consult Keene, C. J., 'Four Hundred Pictures of Our People' (London 1888); Layard, G. S., 'Life and Letters of Charles Keene' (London 1892); 'The Work of Charles Keene' (New York 1897).

KEENE, Laura, American actress and manager: b. England, 1820; d. Montclair, N. J., 4 Nov. 1873. Her real name was Mary Moss, and as "LAURA KEENE" she had become famous in England in the rôle of Pauline in 'The Lady of Lyons' before coming to the United States in 1852, where she made her home the remainder of her life. She was for a time manager of the Varieties Theatre in New York, and 1855–63 was lessee of the Olympic, at first called "Laura Keene's Theatre." She was married to H. W. Taylor in 1847, and to J. Lutz 10 years afterward. The most noted play produced by her was 'Our American Cousin,' brought out in 1858 with Jefferson and Sothern in the cast. While he was witnessing this play at Ford's Theatre in Washington, President Lincoln was assassinated.

KEENE, N. H., city, county-seat of Cheshire County, on the Ashuelot River, and on four divisions of the Boston and Maine Railroad, about 45 miles southwest of Concord and 43 miles west of Manchester. Mount Monadnock is 10 miles from the city. The city, known as Upper Ashuelot, was settled in 1734 and incorporated in 1753 when it took the name of Keene. It received its city charter in 1874. Keene manufactures chairs, woolens, shoes, toys, combs, machinery, loose leaf ledgers, manifold books, ornamental narrow web fabrics, wood novelties, overalls, manicure articles, mica products, etc. There are four national banks and two savings banks in Keene with combined resources of over $7,000,000. Nearly 2,000 persons are employed in the factories. The annual output of manufactured goods is about $3,500,000. The products of the fertile farms of the vicinity add to the wealth of the city. Pop. 10,068.

KEENER, kē'ner, **John Christian,** American Methodist bishop: b. Baltimore, 7 Feb. 1819; d. 1906. In 1835 he was graduated with the first class from Wesleyan University. After entering the Methodist ministry in 1841 he preached in Alabama till 1848 and was pastor and presiding elder in New Orleans 1848–61. He edited the *New Orleans Christian Advocate* (1865–70), and in the year last named was appointed a bishop of the Methodist Church, South. He published 'Post Oak Circuit' (1857; 1875); 'Studies of Bible Truths' (1899); 'The Garden of Eden and the Flood' (1900).

KEENER, William Albert, American jurist and educator: b. Augusta, Ga., 1856; d. 1913. Graduated from Harvard Law School in 1877 he practised law in New York city; became a justice of the Supreme Court of the State of New York and professor of law at Harvard (1883–90) and at Columbia University (1890–1902) and Dean of the Law School (1891–1901). Among his law writings are 'Treatise on the Law of Quasi-Contracts' (1893), and various articles on private corporations and equity jurisprudence.

KEEP, Robert Porter, American writer and educator: b. Farmington, Conn., 1844; d. 1904. Graduated from Yale University in 1865; he became instructor in his alma mater, a position he resigned to become United States consul at the Piræus, Greece (1869–71). On his return home he continued teaching in various colleges. Among his published works are Autenrieth's 'Homeric Dictionary' (translation 1876); 'Stories from Herodotus' (1879); 'Essential Uses of the Moods in Greek and Latin' (1882); 'Homer's Iliad' (first four books, 1883).

KEEP, William John, American inventor and manufacturer: b. Oberlin, Ohio, 3 June 1842. Graduated as a civil engineer from Union College (1865), he began the manufacture of stoves to which he later added that of testing machines. After many experiments he discovered the relation existing between the shrinkage and the chemical composition of cast iron (1885). He has contributed to many technical journals on the chemistry, shrinkage and composition of cast iron. On this subject he published a book entitled 'Cast Iron' (1902).

KEESOO, or **TEESOO,** the flowers of certain species of *Butea* (q.v.).

KEEWATIN, Canada, a former district lying west and south of Hudson Bay and extending north to the Arctic Ocean. Its original area was 516,571 square miles and it was created in 1876. The northern part of Lake Winnipeg and its outlet, Nelson River, are in Keewatin. There are a large number of small lakes, all of which belong in the basin of Hudson Bay. The district has undergone division and reorganization at different times, and is now partly included in the recently acquired portions (1912) of Manitoba and Ontario, the remainder belonging to the Northwest Territories (q.v.).

KEEWATIN, the earliest epoch of the Archæan period, and the series of rocks then formed, consequently the oldest known rocks.

The name is derived from the territory of Keewatin in Canada. In the type region around Lake Superior, the Keewatin rocks consist mostly of much metamorphosed lava flows interbedded with small amounts of sedimentary rocks. The whole series is usually much metamorphosed and is commonly spoken of as the Greenstone series. The iron ores of the Vermilion Range in Minnesota are of Keewatin age.

KEFF, or **EL-KEFF**, ĕl-kĕf', fortified town in northern Tunis, over 100 miles from the city of Tunis. Its fortress crowning the rocky height above the town is looked upon as one of the strongest French fortresses in Africa. Keff, which dates back to the days of the Phœnicians and was once occupied by the Romans, contains several interesting ruins of these early days of its history. It is the centre of considerable trade and commerce, especially in olives and grain.

KEFIR, or **KEPHIR**, kĕf'-ĕr (Turkish *kaif*, delight), a native drink of the people of the Caucasus. It is made from fermented milk, the fermentation being caused by kefir-grains which require from two to three days to complete their action. This fermentation when properly effected, leaves the kefir effervescent. Kefir is prescribed for lung diseases, stomach trouble and anæmia by the Caucasians. It has already become recognized in Europe and the United States as a helpful remedy in cases of intestinal putrefaction and auto-intoxication.

KEGOUSA, a lake in Dane County, Wis., about 10 miles southeast of Madison. It is one of the "Four Lakes" and the furthest south of them.

KEI, kī, or **KEY ISLANDS**, a group of islands situated in the east of the Banda Sea (East Indian Archipelago). The group consists of numerous islands the most important of which are the Great Kei and the Little Kei, the former of which is rough and mountainous. All the islands are well wooded, and with the exception of the Great Kei, low and fertile, as are most of the islands of coal formation. Total area, over 570 square miles. Pop. 23,000, principally natives.

KEIDEL, George C., American philologian, librarian and literary man: b. Catonsville, Md., 16 June 1868. After elementary studies he matriculated at Johns Hopkins University, Baltimore; won competitive scholarships, and in 1889 was graduated B.A. from the Latin-Mathematical group. Continuing studies, especially in French, Italian and Latin, and twice winning the Romance Fellowship, he was made Ph.D. in 1895; and was appointed assistant in Romance languages at his alma mater. Having published a 'Manual of Æsopic Fable Literature' in 1896, he was advanced to the position of instructor and associate in the same department. Here he came under the direct personal influence of Prof. A. Marshall Elliott, the nestor of the Romance scholars of America, and for 20 years made investigations in comparative literature in connection with a critical edition of the 'Fables' of Marie de France upon which the members of the Romance seminary were engaged. Travel abroad in 1897 and 1902 was devoted chiefly to the study of manuscripts and incunabula in the libraries of Belgium, France and Germany. His published writings comprise bibliographical rarities and scores of articles in leading scholarly journals of Europe and America. In 1911 Dr. Keidel resigned his position in the faculty of the Johns Hopkins University to become the foreign language expert of the copyright office in the Library of Congress at Washington, where he has been engaged in preparing for publication an extensive 'Drama Index.'

KEIFER, kī'fĕr, **Joseph Warren**, American soldier and politician: b. Bethel, Clark County, Ohio, 30 Jan. 1836. He was educated at Antioch College and in 1856 settled in Springfield, Ohio, where he began to study law. In 1858 he was admitted to the bar, but at the outbreak of the Civil War gave up his practice to accept a commission as major of the 3d Ohio Infantry, and rose to the rank of major-general of volunteers in 1865. During Lee's last campaign General Keifer's troops were among those which compelled the surrender of Ewell's corps at Sailor's Creek, and General Keifer received the surrender of Commodore Tucker and the Marine Brigade, which numbered about 2,000 men. At the close of the war he declined a commission as lieutenant-colonel of the 26th United States Infantry. He served in the Ohio State senate in 1868–69, held a number of offices in the Grand Army of the Republic, was chosen a delegate to the Republican National Convention in 1876, and the same year was sent to Congress, of which body he continued to be a member until 1883. During the last two years he was speaker of the House. At the outbreak of the Spanish-American War he was commissioned a major-general of volunteers, and for a time commanded the 7th corps, encamped near Havana. He was re-elected to the 61st Congress, his term ending 4 March 1911. He is a member of the Perry Monument Commission and a life member of the Interparliamentary Union and Conference for Arbitration and Peace of the World. He wrote 'Slavery and Four Years of War' (2 vols., 1900).

KEIGHLEY, kē'lĭ, a West Yorkshire municipal borough, England. It is connected with Hull by the Leeds and Liverpool Canal which has contributed to its commercial and industrial expansion. Among its industrial interests are machinery, tools, worsted goods and paper. Pop. about 45,000.

KEIKI, kā'kē, or **HITOTSUBASHI**. See HITOTSUBASHI.

KEITH, kēth, **Alexander**, Scotch ecclesiastical writer: b. Keith Hall, Aberdeenshire, 30 Nov. 1791; d. Buxton, England, 8 Feb. 1880. Graduated from Aberdeen University, he became a minister of the Established Church of Scotland but joined the Free Church movement in 1843. He became noted as a lecturer and as a defender of the principles of the Free Church party. Among his published works are 'Evidence of the Truth of the Christian Religion' (1828); 'Signs of the Times' (1832); 'Demonstration of the Truth of the Christian Religion' (1838); 'The Mission to the Jews' (1841); 'The Land of Israel' (1843); 'The Harmony of Prophecy' (1851).

KEITH, Arthur, American geologist: b. Saint Louis, Mo., 30 Sept. 1864. He received

the degree of A.M., from Harvard College in 1886, and has been geologist on the United States Geological Survey since 1887, having charge of areal geology east of 100th meridian. He is a Fellow of the Geological Society of America and of the American Association for the Advancement of Science. Author of various folios and reports on geology of southern Appalachian region published by United States Geological Survey.

KEITH, Benjamin Franklin, American theatrical manager: b. Hillsboro Bridge, N. H., 26 Jan. 1846; d. 26 March 1914. He began his show life as employee of a circus; and eventually became manager of one. In 1885 he purchased a part interest in the Gaiety Theatre, Boston, to the management of which he brought some of the experience he had gained as manager of the circus. One of his innovations was the continuous performance program. Joining hands with F. F. Proctor (1906), he formed the Keith and Proctor Amusement Company for the establishment of vaudeville theatres through various cities of the United States. As president of the United Booking Office of America, he did much to improve the theatrical situation throughout the United States.

KEITH, George, Scottish Quaker: b. probably in Aberdeenshire about 1639; d. Edburton, Sussex, England, 27 March 1716. He was educated at Marischal College, Aberdeen; became a Quaker in 1662, and in 1677 he accompanied George Fox and William Penn to Holland on a missionary journey; came to Philadelphia in 1689; and was there accused of heresy and interdicted from preaching in 1692. He then held separate meetings of his followers, known first as Keithites and later as "Christian Quakers." Disowned by the yearly meeting of 1694, he established a congregation in which the Quaker externals were observed but the Lord's Supper and baptism were administered. In 1700 he conformed to the Anglican Church, in 1702–04 was a missionary in America for the Society for the Propagation of the Gospel, and from 1705 until his death was rector of Edburton, Sussex. Among his writings were 'The Deism of William Penn and his Brethren' (1699); 'The Standard of the Quakers Examined' (1702), and 'A Journal of Travels' (1706).

KEITH, George Elphinstone, Viscount, British admiral: b. Elphinstone, Scotland, 7 Jan. 1746; d. Tullyallan, Perthshire, Scotland, 10 March 1823. After continuous and varied service in the navy from his boyhood, he played a prominent part in the war with the American colonies from 1775–80, looking after privateers and intercepting blockade runners. He was in command of frigate *Perseus,* which took part in the reduction of Charleston (1780) and in several other American land engagements. In 1793 he was second in command of the Mediterranean squadron and the following year was promoted to the rank of rear-admiral. In 1795, as commander of an expedition against the Dutch colonies, he seized Cape Colony, Ceylon, Cochin, Malacca, the Molucca Islands and captured the Dutch West Africa squadron. These exploits earned him promotion to the rank of Baron Keith of Stonehaven Marischal (in the Irish peerage) in 1796. Four years later he aided the Austrians in the capture of Genoa; and in 1803 he became commander-in-chief of the North Sea fleet, a position he held until 1807. He continued to operate against the French throughout the Napoleonic wars and it was the Channel fleet which he commanded that prevented Napoleon's escape in 1815. For his continuous and excellent services he was elevated to the peerage of the United Kingdom as Viscount Keith. Consult Allardyce, 'Memoir of the Honorable G. K. Elphinstone, K. B., Viscount Keith' (London 1882).

KEITH, James, Scottish soldier: b. Inverugie, Aberdeenshire, 14 June 1696; d. Hochkirch, Saxony, 14 Oct. 1758. He was of noble birth, his father being William Earl Marischal of Scotland, and his mother daughter of the Earl of Perth. Educated for law at the University of Edinburgh, he joined the Stuart insurrection in 1715. He was taken prisoner and attainted of treason, but succeeded in making his escape to France. In 1719 he joined the expedition against Scotland which had been fitted out in Spain, and on its defeat he again escaped, this time to Spain. After military service there for some time he entered the Russian army as major-general and fought against the Turks and Swedes. Frederick the Great tempted him to Prussia with the rank of field-marshal (1747). Keith and his elder brother, the Earl-Marischal and head of the Keith family, became the most trusted of the friends of the great Frederick; and their names are inseparably connected with his campaigns. The elder Keith proved to be a genius of diplomacy, the younger a military master. From the time he entered the service of Prussia James Keith became known as Marshal Keith, the title generally given him in history. For his brilliant exploits in Prussia see the history of the Seven Years' War or any good history of Prussia. Marshal Keith met his death at the battle of Hochkirch at which the Austrians defeated the Prussians. Consult Carlyle, 'The Life of Frederick the Great' (New York 1858).

KEITH, Sir William, British colonial officer: b. near Peterhead, Scotland, 1680; d. 18 Nov. 1749 in Old Bailey prison, London. He was son of Sir William Keith of Ludquhairn, Aberdeenshire, Scotland. Like all the Keiths, a supporter of the Stuart cause, he spent his life at the French court where he seems to have been known as a profligate. Making his peace with the British government, he was appointed surveyor-general of customs in the southern colonies of North America. He was governor of Pennsylvania (1717–26) and held other government offices in America. Among his writings are 'A History of Virginia' (1738), and a volume of various subjects (1749). He was in prison for debt at the time of his death.

KEKULE VON STRADONITZ, kā'koo-lā jŏn strä'dō-nĭtz, **Friedrich August,** German chemist: b. Darmstadt, 1829; d. Bonn, 1896. Educated at Giessen and Paris, he became tutor at Heidelberg and professor of chemistry at Ghent (1858) and later held the same position in Bonn. He was one of the great and original thinkers in chemistry of his day and his influence on the development of the science was worldwide. He established the valence theory, developed the constitutional formula of benzene and applied his knowledge thus gained to the

study of numerous compounds. His work in synthetic dyes gave Germany a start in their manufacture which she held until the European War deprived her of it. Kekulé wrote considerable on chemical subjects.

KEKULÉ VON STRADONITZ, Reinhard, German writer on archæological subjects: b. Darmstadt, 1839; d. 1911. Educated at Göttingen and Berlin, he became professor of archæology at Bonn and later at Berlin. Among his published works, most of which are the result of personal investigation, are 'Hebe' (1867); 'Die Balustrade des Temples der Athena Nike' (1869); 'Die Antiken Bildwerke in Theseion' (1869); 'Die Gruppe des Künstlers Menelaos in Villa Ludovisi' (1870); 'Ueber die Entstehung der Götterideale der griechischen Kunst' (1877); 'Zur Deutung und Zeitbestimmung des Laokoon' (1883); 'Die antiken Terra-kotten' (1880–84); 'Das Leben Friedrick Gottlieb Wilckers' (1880); 'A History of Greek Art' (1890).

KE'LANTAN, or **KI'LANTAN,** a native Malay state under British protection. It is situated on the east side of the peninsula and its chief port of the same name maintains steamship communication with Siam, Singapore and all the important coast cities and with the interior of the country and of neighboring Malay states, by means of a branch line of the Federated Malay States Railroad system. The industries of the state are chiefly agriculture, the chief products of which are rice, tapioca, rubber, resin, fruits and copra. Silk weaving is carried on extensively and the manufacture of boats is one of the chief occupations of the port towns. The country is rich in mineral wealth which has, so far, been but poorly exploited; but British capital has begun to develop the best known of its mining regions. Kota Bharu, the state capital, has 12,000 inhabitants while the whole country has a population of 290,000 to an area of 5,500 square miles.

KELAT, kē-lät, a city in Baluchistan, of which it is the capital and the residence of the Khan. See KHELAT.

KELCEY, Herbert Lamb, Anglo-American actor: b. London, England, 1856; d. 10 July 1917. He made his first stage appearance at Brighton in 1877, and three years later he was on the cast of Bow Bells in London. After playing important parts in the principal London theatres he went to the United States in 1882 where he continued to make his home. In New York he was connected with Wallack's Theatre and Daniel Frohman's Lyceum company and played important parts in New York and in companies traveling throughout the principal cities of the United States.

KÉLER-BÉLA, kā'lĕr-bā'lă, **Albert Von,** Austrian musical composer and violinist: b. Bartfeld, Hungary, 1820; d. 1882. Educated at Vienna, he became leader of the Gungl Band in Berlin in 1854. After several years' experience in the orchestra of the Theater an der Wien in Vienna in 1867 he became conductor of the Kur Orchestra in Vienna, a position he held until 1873. He was very popular as a composer of orchestra and dance music and he is still looked upon as one of the best of writers of violin solos.

KELETI, kĕl'ĕ-tē, **Gustav Friedrich,** Hungarian painter: b. Pressburg, 1834; d. 1902. Graduated in law in Vienna he followed teaching for a while and finally studied painting in Munich. He developed a talent for landscape painting into which he threw a touch of Romanticism; but he was never successful as a painter of figures. He helped to establish the Royal Hungarian School of Drawing and the School of Industrial Art of both of which he was head. As a critic he deserves a high place in the history of art in Hungary.

KELLER, Arthur Ignatius, American painter and illustrator: b. New York, 1867. His art studies were made at the National Academy, New York, and in Munich. He has won a reputation as one of the best of American illustrators, and he is also a skilful oil and water-color artist. He has illustrated a long list of books, among them 'The Virginian' (Wister); 'Kate Bonnet' (Stockton); 'The Right of Way' (Gilbert Parker); and the stories of Bret Harte. He has won many medals for paintings and some of his oil and water-color productions are hung in prominent galleries at home and abroad.

KELLER, kĕl'ăr', **Emile,** French writer and statesman: b. Belfort, 1828; d. 1909. He became leader of the Roman Catholic party among the French deputies, and was commander of a company of volunteers during the Franco-Prussian War. After the war he opposed the cession of Alsace-Lorraine to Germany. Among his numerous writings are 'Histoire de France' (1888); 'L'Encyclique et les libertés de l'église gallicane' (1860); 'L'Encyclique et les principes de 1789' (1865); 'Le générale de Lamoricière' (1873); 'Les congrégations religieuses en France' (1880). These works are written from the Catholic point of view and, for this reason, they have been read and are still popular in Catholic circles.

KELLER, Ferdinand, German painter: b. Karlsruhe, 5 Aug. 1842. He was educated at Karlsruhe; studied from nature in Brazil in 1857–62; was a student in landscape painting under Schirmer in Karlsruhe in 1862 and of figure painting under Canon in Karlsruhe in 1863; and studied in Rome in 1863–67. His works embrace Brazilian landscapes, allegorical and historical paintings and portraits. Among his sitters are members of the Imperial family. In 1881 he was appointed director of the school of art in Karlsruhe. His 'Death of Phillip II' (1867), won first prize at the International Art Exposition in Rio de Janiero and his 'Burning of Rome under Nero' was awarded a medal at the Vienna Exposition in 1873. Among other works are 'Victory of Margrave Ludwig Wilhelm of Baden over the Turks at Salankamen, 1691' (1879); 'Hero Finding the Body of Leander' (1880); 'Triumphal Progress of Pallas Athene before Elector Ruprect' (1886), etc.

KELLER, Friedrich Ludwig, VON, Swiss-German jurist: b. Zürich, 17 Oct. 1799; d. Berlin, 11 Sept. 1860. He was educated at Berlin and Göttingen and in 1825 returned to Zürich where he was appointed professor of civil law in the university. He was a leader of the Liberal Radical party and in 1831 became head of the Swiss justiciary. In 1843–47 he was professor in the University of Halle. He then

removed to Berlin where he was active politically, and was later ennobled. He wrote 'Ueber Litiskontestation und Urteil' (Zürich 1827); 'Der römische Zivilprozess und die Aktionen' (Leipzig 1852; 6th ed., 1883), etc.

KELLER, Gottfried, the best writer of short stories (*Novellen*) in German literature: b. Zürich, Switzerland, 19 July 1819; d. there, 17 July 1890. His father was a lathe-worker from Glattfelden (1791–1824); his mother's maiden name was Scheuchzer (1787–1864). After his father's death, Keller's family lived in constant poverty, and, because of his difficulties with his teachers, in continual disagreement with school authorities. Keller later gave a good rendering of his experiences in this period in his long novel, 'Der grüne Heinrich' (1850–55; 2d version, 1879). His mother seems to have brought him up in as carefree a condition as possible, sparing for him from her scanty meals, and allowing him the greatest possible liberty in the disposition of his time, the choice of a calling, etc. With some changes, a treatment of her relations to him may be found in his short story, 'Frau Regel Amrain und ihr jüngster' (in the collection 'Die Leute von Seldwyla'). After numerous unsuccessful attempts to find a good teacher of painting, which was Keller's first passion, in his native town, he went to Munich in 1840 to study at the Royal Academy of Arts. But he soon recognized that painting was not for him and spent six years at Zürich in almost total inactivity (1842–48), inclining strongly toward radicalism in politics, but subject to much temptation and sef-indulgence. In 1848 he went to Heidelberg to pursue serious studies, coming under the influence of the philosopher Feuerbach and extending his radicalism also to matters of religion. But it was chiefly his stay in Berlin (1850–56) which molded Keller's character into its final shape, toned down his rather bitter pessimism to a more moderate form and prepared him (not without the privations of hunger), in the whirl of a large city, for an enjoyment of the more restricted pleasures of his native Zürich. It was in Berlin that he turned definitely away from other pursuits and took up literature as a career. In this period fall 'Der grüne Heinrich' and the first collection of 'Die Leute von Seldwyla,' (five stories averaging 60 pages each: 'Pankraz der Schmoller,' 'Frau Regel Amrain und ihr jüngster,' 'Die drei gerechten Kammacher,' 'Romeo und Julie auf dem Dorfe,' 'Spiegel das Kätzchen'). 'Der grüne Heinrich' is the most personal of all his works; under the influence of J. J. Rousseau's doctrine of a return to nature, this book, at first intended as a short narrative of the collapse of the life of a young artist, expanded, as its composition progressed, into a huge work that treats, in poetically transfigured manner, all the events in Keller's life up to his return to Zürich in 1842. Its reception by the literary world was cool, but the later version (1879) is a rounded and satisfying artistic product. 'Die Leute von Seldwyla' includes at least two stories that are immortal: 'Die drei gerechten Kammacher,' the most satvric and scorching attack on the sordid petit bourgeois morality ever penned by any writer, and 'Romeo und Julie auf dem Dorfe,' one of the most pathetic tales in literature (Shakespeare's plot in a Swiss village setting). In 1861 Keller became city registrar (Staatsschreiber) of Zürich. The routine duties of this position were a sort of fixed point about which his artistic activities could revolve, but he produced little of permanent value in these years. After 15 years at this post he was retired in 1876, and began a period of literary activity that was to last to his death, living the life of an old bachelor with his sister Regula as his housekeeper. In spite of his often unsympathetic manner, his extreme reserve and idiosyncrasy in dealing with others, he had gained the affection of his fellow-townsmen and an almost universal reputation before his death.

His fame is based chiefly on 15 short stories, the five mentioned above, the five contained in the second volume of 'Die Leute von Seldwyla' (1874); 'Die missbrauchten Liebesbriefe,' 'Der Schmied seines Glücks,' 'Dietegen,' 'Kleider machen Leute,' 'Das verlorene Lachen'; and five in 'Züricher Novellen' (1878); 'Hadlaub,' 'Der Narr auf Manegg,' 'Der Landvogt von Greifensee,' 'Das Fähnlein der sieben Aufrechten,' 'Ursula.' The milieu is always that of an orderly bourgeois existence, within which the most manifold human destinies, the most humorous relations are progressing, the most peculiar and hardy types of endurance and reticence being formed. Some of the stories contain a note that is new in German literature, that has endeared them particularly to Germans, as embodying an ideal as yet unrealized in their own country: they narrate the development of character under the relatively free conditions of little Switzerland, picturing an unbureaucratic civic life and an independence of business initiative that cannot but attract those who have been denied these privileges. As short stories, they cannot compare with Maupassant's or Thomas Mann's for artistic construction; they resemble those of Henry James chiefly in complexity and wealth of detail, not in sophistication and elegance; but they deal intimately and understandingly, often by caricature and exaggeration, with the motives of plain middle class persons, or those on the lower fringe of the middle class ('Romeo und Julie auf dem Dorfe'). Physical description of a painfully detailed, yet entrancing variety, is their chief external grace: pages are devoted to the portrayal of the tiled stove (*Dietegen*) or a cheap cabinet (*Kammacher*). Keller's most mature collection of short stories is 'Das Sinngedicht,' containing 'Die arme Baronin,' 'Der Geisterseher,' 'Regine,' 'Don Correa,' 'Berlocken' (1882). In the form of what the Germans call "eine Rahmenerzählung" (a framework story, stories within a story), it unites a continuous narrative with a number of interposed, independent tales, a device of which Boccaccio is the most illustrious exponent, and which German writers have consciously developed to a high degree of perfection. Die sieben Legenden' (1872, containing 'Eugenia,' 'Die Jungfrau und der Teufel,' 'Die Jungfrau und der Ritter,' 'Das Tanzlegendchen,' etc.) is a similar collection, in which the author has adopted his merry art of narrative to an ecclesiastical outline. His last work is 'Martin Salander,' in which his creative and descriptive powers seem no longer at their full height. It is the old opposition of the risen and the rising generation, in his usual Swiss setting.

The significance of family life and the relation of the individual to society are well put. By German critics, Keller is also placed very high as a lyric poet. (See DER GRÜNE HEINRICH).

The 'German Classics' (Vol. XIV, New York 1914) has translations of 'A Village Romeo and Juliet,' 'The Governor of Greifensee,' 'The Company of the Upright Seven,' 'Ursula,' with 'Life of Keller' by J. A. Walz. Consult 'Werke' (10 vols., Stuttgart 1909); 'Nachgelassene Schriften und Dichtungen' (Berlin 1893); Hauch, Edward F., 'Gottfried Keller as a Democratic Idealist' (New York 1916); Baechtold, Jakob, 'Gottfried Kellers Leben, Briefe, und Tagebücher' (3 vols., Stuttgart and Berlin 1894–97); Baechtold, 'Keller: Bibliographie' (Berlin 1897); Baldensperger, Fernand, 'Gottfried Keller, sa vie et ses œuvres' (Paris 1899); Huch, Ricarda, 'Gottfried Keller' (Berlin n.d.); Köster, Albert, 'Gottfried Keller' (Leipzig 1907); Köster, 'Der Briefwechsel zwischen Theodor Storm und Gottfried Keller' (Berlin 1909).

JACOB WITTMER HARTMANN.

KELLER, Helen Adams, American blind, deaf and dumb girl who has been successfully educated: b. Tuscumbia, Ala., 27 June 1880. When about two years old she was deprived of sight and hearing by a severe illness. Her education was not begun till she was seven, when Miss Anna Mansfield Sullivan (Mrs. John A. Macy), of the Perkins Institute of the Blind, went to her home to take charge of her. She learned the deaf and dumb language by touch, learned to read by the braille system, and to write, using a special typewriter; in 1890 she also learned to speak under the instruction of Miss Sarah Fuller, of the Horace Mann School, New York. When 12 years old she went to Boston, where she has since lived; in 1896 she entered the Cambridge School for Young Ladies to prepare for college. Miss Sullivan went with her to all classes and repeated the lectures and discussions by touch. In 1900 she entered Radcliffe College and was graduated with honors in 1904. The work of her college course was done with aid of Miss Sullivan, as in the preparatory school; the textbooks were printed in braille; she wrote her examinations with her own typewriter; and had special conferences with her instructors instead of taking part in recitations. In addition to doing the full college work, she took part in the social life and was very popular with her classmates. After graduation she served on the Massachusetts Commission for the Blind and on various committees in aid of the blind. She has become well known as a lecturer and writer on her experiences and on the educational and cultural possibilities for the blind. She has written her autobiography under the title of 'Story of My Life' (1903), and 'Optimism' (1903); 'The World I Live In' (1908); 'Song of the Stone Wall' (1910); 'Out of the Dark' (1913). Consult Harry, Gérard, 'Man's Miracle: The Story of Helen Keller and her European Sisters' (New York 1913); Hitz, John, 'Helen Keller' in the *American Anthropologist* (Vol. VIII, Lancaster, Pa., 1906); and Madame Maeterlinck, 'The Girl who Found the Bluebird' (New York 1914).

KELLER, Otto, German classical philologist: b. Tübingen, 28 May 1838. He was educated at the universities of Tübingen and Bonn and later specialized in the study of Horace. He was professor at Freiburg 1872–76, at Graz 1876–81 and from then until his retirement on a pension in 1909 he was at Prague. Chief among his critical works on Horace are 'Horatii Opera Rec. Holder et Keller' (1864–70; Vol. I, 2d ed., 1899); 'Epilegomena zu Horaz' (3 vols., Leipzig 1879–80); 'Pseudoacrouis Scholia in Horatium Vetustiora' (2 vols., 1902–04). Among other works are 'Tiere des klassischen Altertums in kulturgeschichtlicher Beziehung' (Innsbruck 1887); 'Lateinische Etymologien' (1893); 'Kulturgeschichtliches aus der Tierwelt' (1904); 'Die antike Tierwelt' (Vol. I, 1909; Vol. II, 1914), etc.

KELLERMAN, William Ashbrook, American botanist: b. Ashville, Ohio, 1 May 1850; d. 8 March 1908. He was graduated at Cornell in 1874, and received his Ph.D. from the University of Zürich in 1881. He was a professor in the State Normal School, Oshkosh, Wis., five years; in the State College, Lexington, Ky., one year, and at the Kansas Agricultural College eight years. He was botanist to the Kansas Experimental Station four years, and from 1891 until his death was professor of botany in the Ohio State University. He lectured extensively, contributed to various botanical journals and investigated parasitic fungi. He wrote 'Elements of Botany'; 'Plant Analysis'; 'Spring Flora of Ohio'; 'Catalogue of Ohio Plants' (1899); 'Non-Indigenous Flora of Ohio' (1900), etc.

KELLERMANN, Bernhard, German novelist, author of a number of very sensational works: b. Fürth, Bavaria, 4 March 1879. He traveled considerably and lived in a number of cities: Rome (1904–05), Berlin (1905–06), Grünwald bei München (1906–09), Schöneberg bei Berlin (from 1909). His most famous work is 'Der Tunnel' (1913; English translation, 'The Tunnel,' New York 1914), of which 100,000 copies were printed in its first year. It is a romance of iron and steel, a study of commercial expansion and consequent clash of interests, centring about the construction of a tunnel joining the continents of Europe and North America under the Atlantic Ocean: in short, a typical product of the imperialistic imagination as molded under the hothouse conditions of modern industrial life. He has traveled in the Orient to obtain impressions of Eastern life and has rendered these impressions in the last two of the works enumerated below. His works include 'Yester und Li' (1904); 'Ingeborg' (1906); 'Der Tor' (1907); 'Das Meer' (1910); 'Ein Spaziergang in Japan' (1911); 'Sassayo Yassa' (1913). An English translation, 'God's Beloved,' of a story written by Kellermann in 1911 appears in 'German Classics' (Vol. XX, New York 1914).

KELLERMANN, François Chistophe, frăn swä krēs-tōf kĕl'lĕr-măn (originally GEORG MICHAEL KELLERMANN), Duke of Valmy, French marshal: b. Wolfsbuchweiler-an-der Tauber, Bavaria, 28 May 1735; d. 12 Sept. 1820. He entered the Conflans Legion as a hussar in 1752 and engaged in the first campaigns of the

Seven Years' War. In 1792 he received the command of the army of the Moselle, formed a junction in September with the main army under Dumouriez and sustained 20 Sept. 1792 the celebrated attack of the Duke of Brunswick. In the following wars of France Kellermann received various general commands. He became marshal of France in 1804 and Duke of Valmy in 1809. After the Bourbon restoration he was appointed a member of the Chamber of Peers, where he espoused the Liberal side.

KELLERMANN, François Etienne de, DUKE OF VALMY: b. Metz, 4 Aug. 1770; d. 2 June 1835. Son of François Christophe de Kellermann (q.v.). He served in his father's regiment before entering the diplomatic service in 1791, returning to the army in 1793 and again serving under his father in the army of the First Consul. In 1796 he became Napoleon's adjutant-general and in 1797 his services at Tagliamento won his promotion to brigadier-general. At Marengo he conducted a cavalry charge that won the battle and gained for him rank as general of division. He was at Austerlitz and served in the Peninsular campaign. He remained in the army throughout the Restoration, but rejoined Napoleon's service upon his return from Elba. He commanded a cavalry corps at the battle of Waterloo. He was considered the ablest of Napoleon's cavalry generals, but his fame was clouded by his undoubtedly merited personal unpopularity; Napoleon, however, ever kept in mind de Kellermann's service at Marengo. He sat in the House of Peers from 1820 and vigorously opposed the Bourbons until the fall of Charles X in 1830. His unpublished memoirs were used by his son, François Christophe Edmond de Kellermann in the preparation of 'Histoire de la Campagne de 1800' (Paris 1854).

KELLEY, kĕl'ĭ, **Benjamin Franklin,** American soldier: b. New Hampton, N. J., 10 April 1807; d. Oakland, Md., 17 July 1891. In 1861 he recruited and became colonel of the first Virginia regiment enlisted in the Federal service, on 17 May became brigadier-general, captured Romney 26 October and was for a time until January 1862, commander of the Department of Harper's Ferry and Cumberland. In July 1863 he was appointed to command the Department of West Virginia, in November 1863 destroyed the Confederate camp near Morefield, Va., and in August 1864 defeated the enemy at Cumberland, Md., and New Creek and Morefield, Va. He was brevetted major-general of volunteers in 1865, and subsequent to the war was from 1876 superintendent of the Hot Springs (Ark.) reservation, and from 1883 an examiner of pensions.

KELLEY, Charles H., English Wesleyan clergyman and publisher: b. Salford, Manchester, 25 Nov. 1833; d. London, 5 April 1911. He was educated at Didsbury College. He entered the Wesleyan Methodist ministry in 1857 and served as pastor for many years. He was secretary of the Wesleyan Sunday School Union, 1875–89; book steward or manager of the Methodist Publishing House, London, 1889–1907. He was elected to the "Legal Hundred," 1878; president of the Wesleyan Conference, 1889–90, 1906–07; president of the National Council of Evangelical Free Churches, 1900–01. He served as fraternal delegate to the General Conference of the Methodist Episcopal Church, 1888. He was the first Wesleyan minister to conduct services in military prisons under War Office authority. He was a manager of the Wandsworth Boys' Home and Reformatory for many years. He was also vice-president of the British and Foreign Bible Society and of the Sunday School Union. He is said to have preached in over 800 churches and dedicated many churches. He published his 'Memories, or Autobiographical Reminiscences' (1910).

KELLEY, Edgar Stillman, American composer: b. Sparta, Wis., 14 April 1857. He studied with Merriam, Clarence Eddy and Ledochowski in Chicago, 1874–76, and afterward with Seifriz, Krüger, Speidel and Finck at Stuttgart, graduating from the conservatory there in 1880. Upon his return he held several church appointments and for a short period conducted a comic opera. Later he taught in San Francisco, where he became musical critic of the *Examiner*. In 1896 he settled in New York, teaching in the New York College of Music and lecturing for the extension department of New York University in 1901–02. From 1902 to 1910 he resided in Berlin. Upon his return to the United States he became professor of music at the Western College for Women in Columbus, Ohio, and professor of composition at the Cincinnati Conservatory of Music. He became a member of the National Institute of Arts and Letters. His works include a comic opera, 'Puritania'; two symphonies; an orchestral suite, 'Aladdin'; a piano quartet; a string quartet; incidental music to 'Ben Hur,' 'Prometheus Bound,' 'Macbeth'; songs; piano pieces, etc. His book 'Chopin the Composer' (1913) attracted wide attention for its scholarly analysis of the master's works.

KELLEY, Florence, American social worker: b. Philadelphia, 12 Sept. 1859. She was graduated at Cornell in 1882 and took her LL.B. at the Northwestern University in 1894. She was State inspector of factories in Illinois in 1893–97; served as American editor of the *Archiv für Sozialegesetzgebung*, Berlin, in 1897–98; and since 1899 has been general secretary of the National Consumers' League. Through a marriage, later dissolved, she is known as Mrs. Kelley. She is associate editor of the *Survey* and a trustee of the National Child Labor Committee. Besides a translation of Friedrich Engel's 'Condition of the Working Classes in England' she has written 'Some Ethical Gains Through Legislation' (1905); 'The Fate of Felix Brand' (1913); 'Modern Industry in Relation to the Family' (1914). She edited Edmond Kelly's 'Twentieth Century Socialism' (1910).

KELLEY, James Douglas Jerrold, American naval commander: b. New York, 25 Dec. 1847. He was graduated from the United States Naval Academy in 1868; became lieutenant-commander in 1893 and commander in 1899. He was successively inspector of merchant vessels at New York, senior aide to the commandant at the navy yard there, commanded the *Resolute* and for a second time was inspector of merchant vessels. He was retired 1

April 1901. He has published 'The Question of Ships'; 'Our Navy'; 'A Desperate Chance'; 'American Men-o'-War'; 'History of the Naval Experimental Battery'; 'American Yachts'; 'Typical Yachts'; 'The Ship's Company'; 'The Story of Coast Defense'; 'The Navy of the United States 1775–1899'; and is the naval editor of the New York *Herald*.

KELLEY, William Darragh, American legislator: b. Philadelphia, Pa., 12 April 1814; d. Washington, D. C., 9 Jan. 1890. He was apprenticed first to a jeweler and later to a printer, studied law at Philadelphia and in 1841 was admitted to the bar there, in 1845–46 was attorney-general of Pennsylvania, and in 1846–56 judge of the Court of Common Pleas at Philadelphia. Previously a Democrat, he became a Republican in 1854, and in that year gave at Philadelphia a once well-known address on 'Slavery in the Territories.' In 1860 he was a delegate to the National Republican Convention, and from that year until his death was a member of the House of Representatives, where he was chairman of the Committee on the Centennial Exposition and was known as 'Pig-iron Kelley.' For some years he was senior of the House. Among his publications are 'Letters on Industrial and Financial Questions' (1872); 'Letters from Europe' (1880); 'The New South' (1887).

KELLEY, William Valentine, American Methodist clergyman and editor: b. Plainfield, N. J., 13 Feb. 1845. He was educated at Wesleyan University, graduating in 1865. Two years later he entered the ministry of the Methodist Episcopal Church. He served prominent churches in Camden, N. J., New Brunswick, N. J., Buffalo, N. Y., Philadelphia, Pa., Newark, N. J., Brooklyn and New Haven, Conn. Since 1893 he has been editor of *The Methodist Review*. He has been a member of every session of the General Conference beginning with 1896. He is a manager of the Board of Foreign Missions of the Methodist Episcopal Church and also of the American Bible Society. He is author of 'The Ripening Experience of Life and Other Essays' (1907); 'Down the Road and Other Essays' (1911); 'The Illuminated Face' (1911); 'Glimpses of the Soul of Gilder' (1911); 'Trees and Men' (1911); 'A Pilgrim of the Infinite' (1914); 'With the Children in Lewis Carroll's Company' (1917).

KELLGREN, Johan Hendrik, Swedish poet and critic: b. Floby, West Gothland, 1 Dec. 1751; d. Stockholm, 20 April 1795. He was educated at the University of Abo and when he became a privatdocent there in 1774, he had already gained recognition as a poet. In 1777 he removed to Stockholm and in 1778 with Assessor Carl Lenngren he founded the *Stockholmsposten*, of which he became editor. He was librarian to Gustavus III from 1780 and in 1785 became his private secretary. He collaborated with the monarch in the production of four operas, Killgren supplying the verse. Upon the establishment of the Swedish Academy in 1786 he was made one of its original members. His fame rests chiefly upon his lyrics, which are among the most notable fruits of the Gustavian period of Swedish letters. His earlier work is keenly satirical, controversial and light in tone, but deep feeling and wise sympathy characterize his later writings. Among his most bitter satires is 'Nyt försök till orimmad vers.' Of his earlier work the spring song, 'Vinterns välde lyktar,' and the satirical 'Mina löjen,' are most notable; while of his later writings the finest are the satire, 'Ljusets fiender,' the inspired patriotic song, 'Kantat den 1 januari, 1789,' the ode, 'Till Kristina,' and the song, 'Nya Skapelsen.' He personally revised his collected works, 'Samlade skrifter' (3 vols., 1796; later edition, 1884–85).

KELLICOTT, William Erskine, American biologist: b. Buffalo, N. Y., 5 April 1878; d. Hastings, N. Y., 29 Jan. 1919. He graduated at Ohio State University, 1898; Ph.D. Columbia, 1904. He was instructor in zoology at Barnard College in 1901–06. In 1906–08 was professor of biology at Goucher College, Baltimore, from 1908–17 was director of the Marine Biological Laboratory, Wood's Hole, Mass.; served for a year on the Federal Food Administration; then became professor of biology at the College of the City of New York. He wrote 'Social Direction in Human Evolution' (1911); 'Textbook of General Embryology' (1913); 'Outlines of Chordate Development' (1913).

KELLNER, MAX, American theologian and Orientalist: b. Detroit, Mich., 21 May 1861. He was graduated from Hobart College in 1881, Cambridge Theological School in 1885, took his A.M. at Harvard in 1886 and his D.D. at Hobart in 1895. He was instructor in Hebrew at the Cambridge Theological School in 1887–91; assistant professor in Old Testament language there in 1891–98, and professor, 1898–1907; since 1907 he has been professor of the literature and interpretation of the Old Testament. He has written 'The Prophecies of Isaiah' (1900); 'The Standard Inscription of Asshurnazirpal' (1895); 'The Assyrian Monuments Illustrating the Sermons of Isaiah' (1900); 'An Outline Study of the Old Testament Literature and Religion' (1902).

KELLOGG, kĕl'og, **Amos Markham,** American educator: b. Utica, N. Y., 5 June 1832; d. New Rochelle, N. Y., 3 Oct. 1914. He was graduated from the Albany (N. Y.) State Normal School in 1851 and was instructor there 1852–56. Afterward he held other educational posts and edited the *School Journal* from 1874 to 1904. He published 'School Management'; 'Life of Pestalozzi' (1891); 'How to be a Successful Teacher' (1901), also numerous school entertainment books.

KELLOGG, Clara Louise, American opera singer: b. Sumterville, S. C., 12 July 1842. She obtained her musical education chiefly in New York, where her first appearance in opera was in 1861 at the Academy of Music, in the rôle of Gilda in 'Rigoletto.' Henceforward she was one of the most popular of American singers, and was also most cordially received in England, where she sang in opera 1867–68 and again in 1872 with Christine Nilsson. Her voice was a pure and flexible soprano and her execution brilliant. She had an extensive repertoire, including 45 operas. In 1874 she organized an English opera company and with it visited nearly every part of the United States. In 1876 she organized an

Italian opera company and later appeared on the concert stage. In 1887 she married her manager, Carl Strakosch, and soon after retired from professional life. She published her memoirs in 1913 under the title 'Memoirs of an American Prima Donna.'

KELLOGG, Elijah, American Congregational minister and writer for the young: b. Portland, Me., 20 May 1813; d. Harpswell, Me., 17 March 1901. He was graduated from Bowdoin College in 1840, from the Andover Theological Seminary in 1843, was pastor of the Congregational church at Harpswell, Me., in 1844–55, in 1855–65 was chaplain of the Boston (Mass.) Seamen's Friend Society, was later for a time in charge of a congregation at Rockport, Mass., but soon returned to Harpswell, and there devoted himself to literary work. He published over a score of juveniles, including 'The Elm Island Series' (1868–70); 'Pleasant Cove Series' (1870–74), and 'Good Old Time Series' (1877–82). But he is best known for his familiar blank verse addresses, 'Spartacus to the Gladiators,' 'Regulus to the Carthaginians' and 'Pericles to the People.' Consult Mitchell, 'Elijah Kellogg: the Man and His Work' (1903).

KELLOGG, Frank Billings, American lawyer and senator: b. Potsdam, N. Y., 2 Dec. 1856. He removed to Minnesota with his parents in 1865, and was admitted to the bar in 1877. He was city attorney of Rochester, Minn., for three years and county attorney of Olmstead County for five years. In 1887 he went to Saint Paul, joining the law firm Davis, Kellogg and Severance. He was counsel for different railroads and mining concerns and later served as special counsel for the United States government in its cases against the Standard Oil Company, the paper trust, the Union Pacific, Southern Pacific and Harriman railroads. He was elected president of the American Bar Association in 1912 and in 1916 was elected to the United States Senate.

KELLOGG, George, American inventor: b. New Hartford, Conn., 19 June 1812; d. there, 6 May 1901. Albert Kellogg, the botanist, was his brother. He was graduated from Wesleyan University in 1837, in 1841 became a manufacturer in Birmingham, Conn., removed in 1855 to New York, was a United States revenue officer in 1863–66, and later was active in manufacturing and experimentation at Cold Spring, N. Y. Among his inventions were a machine for the manufacture of jack-chain, with a capacity of a yard per minute; a type-distributer; an adding apparatus and a dovetailing machine.

KELLOGG, John Harvey, American physician: b. Tyrone, Mich., 26 Feb. 1852. He was a student at the Michigan State Normal School and received his M.D. from the Bellevue Hospital Medical College in 1875. He studied in Europe in 1883, '89, '99, 1902, '07, '11. He has practised at Battle Creek, Mich., since 1875 and has served as superintendent and surgeon of the Battle Creek Sanatorium since 1876. He was a member of the Michigan State Board of Health in 1878–90 and 1912–16. He is founder and president of the American Medical Missionary College; and has invented improved apparatus for medical and surgical purposes. He has written many technical papers, and textbooks and charts for the use of schools in addition to 'The Art of Massage' (1895); 'Rational Hydrotherapy' (1901; 4th ed., 1910); 'The Home Book of Modern Medicine' (1906); 'Neurasthenia or Nervous Exhaustion (1914), etc.

KELLOGG, Martin, American Latinist and educator: b. Vernon, Conn., 15 March 1828; d. San Francisco, 26 Aug. 1903. He was graduated from Yale in 1850, from the Union Theological Seminary in 1854; having removed to California about 1855 there held a pastorate at Grass Valley, Nevada County; was professor of Latin and mathematics in the College of California (1860–69); and when the college was merged into the university held the chair of Latin and Greek in the latter institution in 1869–76. In 1876–94 he was professor of Latin language and literature, in 1890–93 acting president, and in 1893–99 president of the university. He resumed his professional duties in 1900. He published 'Ars Oratoria,' an edition of selections from Cicero and Quintilian (1872), and 'The Brutus of Cicero' (1889).

KELLOGG, Paul Underwood, American editor and social worker: b. Kalamazoo, Mich., 30 Sept. 1879. He was graduated at the Kalamazoo High School, and took special courses at Columbia University 1901–06, and at the New York School of Philanthropy in 1902. He was reporter, then city editor, on the Kalamazoo *Daily Telegraph* in 1898–1901; managing editor, associate editor and now editor of the *Survey* of which he has made a notable success. He was director of the Pittsburgh *Survey* in 1907–08; and edited 'Findings of the Pittsburgh Survey' (6 vols., 1910) for the Russell Sage Foundation. He was one of the directors of the New York City Committee on Congestion of Population and served as chairman of the commission on Occupational Standards of the National Conference of Charities and Correction in 1910. He also served on the board of managers of the Cabot Fund in 1915.

KELLOGG, Samuel Henry, American Presbyterian missionary and scholar: b. Quogue, Long Island, N. Y., 6 Sept. 1839; d. Landour, India, 2 May 1899. He was graduated at Princeton College in 1861 and at the Theological Seminary in 1864, and after being ordained to the Presbyterian ministry, went as a missionary to India, where he remained till 1877. He was professor of systematic theology in Western Theological Seminary 1877–86, and pastor of Saint James' Square Presbyterian Church, Toronto, 1886–92. He returned to India in 1892 and remained there till his death. His publications include 'A Grammar of the Hindi Language' (1876); 'The Jews: or, Prediction and Fulfilment' (1883); 'The Light of Asia and the Light of the World' (1885); 'The Genesis and Growth of Religion' (1892); 'From Death to Resurrection' (1885), etc.

KELLOGG, Vernon Lyman, American entomologist and zoologist: b. Emporia, Kan., 1 Dec. 1867. He was graduated at the University of Kansas in 1889, from Cornell in 1891, studied at the University of Leipzig in 1893 and at the University of Paris in 1904. He was assistant and associate professor of entomology in the University of Kansas in 1890–94 and since 1894 has been professor of

entomology and lecturer at Leland Stanford Jr. University. He has been associate editor of the Philosophy of Nature series since 1911; and in 1915 was in charge of food distribution in northern France and Belgium under the American Commission for Relief in Belgium. In 1917 Mr. Kellogg was appointed assistant to Herbert Hoover, the United States food administrator. He has written 'Common Injurious Insects of Kansas' (1892); 'Elementary Zoology' (1903); 'American Insects' (1904); 'Darwinism To-day' (1907); 'The Animals and Man' (1911); 'Beyond War' (1912), etc.

KELLOGG, William Pitt, American lawyer and politician: b. Orwell, Vt., 8 Dec. 1830. He was educated at the Norwich Military Institute and removed to Illinois, where he studied law. Being admitted to the bar in 1852 he began his practice at Canton. He became active in the Republican party, was chairman of his delegation from Fulton County at the Bloomington Convention on 29 May 1856. Mr. Lincoln was chairman of his delegation from Sangamon County in the same convention. Here the Republican party of Illinois was organized. He was a delegate to the National convention in 1860, and one of the presidential electors in the same year, voting for Lincoln. In 1861 the President appointed him chief justice of the State of Nebraska, then a Federal territory, but later granted him leave of absence that he might raise a regiment of cavalry in Illinois, of which he became colonel. He remained in the army two years, serving in the Missouri campaign with Pope, but was compelled to resign on account of ill health. He was collector of the port at New Orleans (1865–68). His commission as collector is dated 13 April 1865, the day before President Lincoln was assassinated. He was United States senator in 1868–72, governor of Louisiana in 1873–77, and a member of Congress in 1883–85. He was a delegate at every Republican National Convention from 1876 to 1896. He was one of the 306 delegates who voted for Grant in the Republican Convention of 1880. He was delegate-at-large from Louisiana in 1896, and after the election of President McKinley he retired from active politics. Since 1900 he has resided most of the time in Washington, where he has considerable interest. He is a member of the Loyal Legion Commandery of the District of Columbia.

KELLOR, Frances Alice, American sociologist and author: b. Columbus, Ohio, 20 Oct. 1873. She was graduated at the Cornell Law School in 1897, studied at the University of Chicago 1898, 1904, at the New York Summer School of Philanthropy in 1901, and was Fellow of the College Settlements Association in 1902–04. She was secretary and treasurer of the New York State Immigration Commission in 1909; and chief investigator for the Bureau of Industries and Immigration of New York State in 1910–13. She then became managing director of the North American Civic League for Immigrants. She has written 'Experimental Sociology' (1902); 'Out of Work' (1904); 'Education of Women by Athletics' (1909); 'Straight America, a Call to Service' (1916).

KELLOW SAFETY POWDER, one of the explosive combinations of chlorates and perchlorates exploding by friction and supposed by its composition largely to overcome the danger of spontaneous combustion as well as the sensitiveness to percussion characteristic of such mixtures. It is composed of spent, saw- and tan-dust, saturated with sodium nitrate or potassium and a small quantity of potassium chlorate, to which is added sulphur.

KELLS, Ireland, a market town of County Meath, and on the Blackwater, 36 miles northwest of Dublin. The town is noted for its antiquarian remains, chief of which are Saint Columba's house; a round tower of the 12th century 99 feet in height; and several fine stone crosses. Conn of the Hundred Fights resided there in the 2d century and a palace of Dermot, king of Ireland, existed in 544–65. In the 6th century Kells was granted to Saint Columba but there are no remains of the monastery said to have been built. A bishopric founded there about 807 became a noted seat of learning, a testimonial of which exists in the famous 'Book of Kells,' an illuminated manuscript copy of the Gospels in Latin and containing local records, said to be one of the finest of its kind in existence. The manuscript dates from the 8th century and is in possession of Trinity College, Dublin. Pop. 2,395.

KELLY, Edmond, American lawyer and Socialist: b. Toulouse, France, 28 May 1841; d. Paris, 4 Oct. 1909. He was educated in early years in England and was graduated from Columbia University in 1870, was admitted to the bar and later studied at Cambridge University. He opened a law office in Paris, where he became known as an authority on international marriages and where he served also as counsel to the American legation. Returning to New York in 1890, he was active in municipal reform, founded the City Club, and assisted in the election of Mayor Strong. He made an attempt to organize workingmen into good-government clubs but did not meet with much success, and he returned to his law practice in France. Again in the United States in 1905 he participated actively in Socialistic propaganda and made special investigations of the tramp problem. One of his ambitions was to have tramp colonies established in New York State. In Paris he was counsel of Princess de Sagan (Anna Gould) in the divorce suit against her husband, Count Boni de Castellane. His writings include 'Evolution and Effort and their Relation to Religion and Politics' (1895; 2d ed., 1898); 'Government, or Human Evolution' (2 vols., 1900–01); 'The Unemployables' (1907); 'Twentieth Century Socialism' (1910).

KELLY, Howard Atwood, American gynecologist: b. Camden, N. J., 20 Feb. 1858. He was graduated at the University of Pennsylvania in 1882 and was associate professor of obstetrics there is 1888–89. Since 1889 he has been professor of gynecology in the Johns Hopkins University, and since 1899 gynecological surgeon in the Johns Hopkins Hospital. He founded the Kensington Hospital at Philadelphia, and besides several hundred articles contributed to medical journals is the author of 'Operative Gynecology' (2 vols. 1899); 'The Vermiform Appendix and its Diseases' (1905); 'Medical Gynecology' (1908); 'American Medical Botanists' (1913), etc.

KELLY, Hugh, Irish dramatist and poet: b. Killarney, Ireland, 1739; d. London, 3 Feb. 1777. Possessed of little education and originally apprenticed to a staymaker he went to London in 1760 to embark upon a literary career. He secured employment as a newspaper and magazine worker, wrote a novel, some satiric verse and several plays. His adroitness in securing the favor of Garrick doubtless had much to do with the success of his play 'False Delicacy' produced at the Drury Lane Theatre in 1768; the play had little merit but was successful and afterward was translated into French, German and Portuguese. It was followed by 'A Word to the Wise' (1770) which was withdrawn from the Drury Lane Theatre because of factional enmity engendered by Kelly's service as newspaper writer for Lord North, but was successful in the provinces although of inferior quality. 'Elementina' (1771, Covent Garden) was played only nine nights, but 'A School for Wives' was successful on the stage and ran through five large printed editions (1774–75). Other plays were 'The Romance of an Hour' (1774), and 'The Man of Reason' (1776). Kelly's success was now dwindling and he abandoned playwriting, was called to the bar from the Middle Temple in 1774 and devoted himself to the practice of law. He failed at this and died in poverty. He wrote one novel, 'Memoirs of a Magdalen, or the History of Louisa Mildmay' (2 vols., 1767).

KELLY, James Edward, American sculptor: b. New York, 30 July 1855. He studied at the National Academy of Design, and up to 1881 was known as an illustrator of books and magazines. Since that time he has successfully devoted himself to sculpture, and chosen subjects from American history for treatment by his patriotic chisel; so great has been his success that he has won the title of "Sculptor of American History." His well-known works include 'Sheridan's Ride' (1878); 'Paul Revere,' a statuette (1882); 'Monmouth Battle Monument,' with five illustrative panels (1883–85); groups for the 'Saratoga Monument' (1887); 'Grant at Fort Donelson' (1886); 'General Devens' and the 'Sixth New York Cavalry Monument' at Gettysburg (1890); 'Call to Arms'; colossal figure for the Troy 'Soldiers' Monument' (1891); 'Buford Monument' at Gettysburg (1895): 'Battle of Harlem Heights' (executed for the Sons of the Revolution at Columbia University, 1897); and a colossal monument to commemorate the defense of New Haven (1909); 'Count Rochambeau' at Southington, Conn.; 'Father Hecker, Founder of the Paulist Congregation.' A remarkable series of military portraits has also been produced by him. Forty generals of the Civil War, including Grant, Sherman and Sheridan, gave sittings for the sculptor. A series illustrating the leading generals and admirals of the Spanish-American War has followed, witnessing to his skill and industry as a portrait sculptor. Wheeler, Dewey and Sampson are included in this latter gallery of busts. He was one of the founders of the Art Students' League.

KELLY, John, American politician: b. New York, 21 April 1821; d. there, 1 June 1886. After a public school education, he was apprenticed to the mason's trade, in 1845 established a successful business of his own, was elected alderman in 1854, in 1855–59 was a Democratic representative from New York in the 34th and 35th Congresses, and in 1859–62 and 1865–67 was sheriff of New York County. In 1868 he was the candidate of the Democratic Union for mayor, but was defeated by Oakey Hall; and in 1871 assisted Charles O'Conor, Samuel J. Tilden and others in the reorganization of Tammany Hall which followed the Tweed "ring" troubles. He became comptroller of New York in 1876, but was removed in 1879 by Mayor Cooper. In 1878 he caused the city delegates to bolt the Democratic State Convention of that year, and was himself nominated for governor by the bolters on an independent ticket in opposition to Robinson, the regular candidate. He received 77,566 votes, and thus caused the election of Alonzo B. Cornell, Republican. In 1885 and 1886 he was chairman of the Tammany Hall general committee. See TAMMANY SOCIETY.

KELLY, Myra (MRS. ALLAN MACNAUGHTON), American author and educator: b. Dublin, Ireland; d. 30 March 1910. She came to the United States when a child and was graduated at the Teachers' College, Columbia University, in 1899. She was a teacher in the New York public school system in 1899–1901; and in 1902–03 she was critic teacher at Speyer School, Teachers' College. She came swiftly into prominence as a writer of short magazine fiction; her material, that of the pathetic children of the lower East Side of New York, being handled with charming sympathy and humor. She also wrote several novels. She was the author of 'Little Citizens' (1904); 'The Isle of Dreams' (1907); 'Wards of Liberty' (1907); 'Rosnah' (1908); 'Golden Season' (1909); 'Her Little Ladyship' (1911).

KELLY, Thomas, Irish hymn writer and clergyman: b. Dublin, Ireland, 13 July 1769; d. there, 14 May 1855. He was graduated at Trinity College, Dublin, in 1789, abandoned law for theology and was ordained in the Church of England in 1792; but later he became a Non-Conformist. He wrote 767 hymns, of which 'On the Mountain Tops Appearing' is one of those still in use.

KELLY, William, American inventor: b. Pittsburgh, Pa., 22 Aug. 1811; d. Louisville, Ky., 11 Feb. 1888. He early turned his attention to invention, engaged in the forwarding and commission business at Pittsburgh, Pa., and from 1846 in the iron business in Kentucky. In 1851 he finally perfected his process in decarbonizing iron by means of a current of air, and thus by a converter directly transforming pig-iron into steel. This method, "Kelly's air-boiling process," was the same as that patented by Sir Henry Bessemer in England in 1856 (or 1857), and Kelly asserted that Bessemer had gained knowledge of it through American workmen. Bessemer's application in the United States was refused, and the patent awarded to Kelly. Kelly's interests were safeguarded by a syndicate, and steel was first manufactured under his patents in the foundry at Wyandotte, Mich. He is said to have introduced Chinese labor into the United States.

KELLY-KENNY, SIR Thomas, Irish soldier: b. Kilrush, Ireland, 27 Feb. 1840; d. 26 Dec. 1914. He entered the army as an ensign in 1858 and rose to the rank of major-general

in 1897. He served in China in 1860, in Abyssinia in 1867, was inspector-general of auxiliary forces and recruiting in 1897–99. In 1899–1902 he was lieutenant-general on staff in command of the Sixth Division, South African Field forces. In 1901–04 he was at headquarters as adjutant-general to the forces. He was knighted in 1902; received from King Edward his G.C.V.O. in 1906; and retired in 1907.

KELLY'S FORD, Engagements at. This point on the Rappahannock River six miles above its junction with the Rapidan and about five miles below Rappahannock Station was the scene of several engagements between the Federals and Confederates during the Civil War. In August 1862, the Union cavalry of the Army of Virginia had a spirited encounter with the Confederate cavalry, and 17 March 1863 General Averell, with 2,100 Union cavalry and a battery of six guns, crossed at the ford, after a sharp engagement, and moved on Culpeper Court House, under orders to rout and destroy Fitzhugh Lee's cavalry brigade, reported at that place. Lee was found in his immediate front with five regiments and a battery, and when about noon Averell advanced, a hard fight ensued, during which Lee was gradually forced back over a mile; then Averell was checked, finally driven back and recrossed the river at dark. It was the first purely cavalry battle of the war, and was closely contested on both sides. The Union loss was 65 killed and wounded and 22 missing; the Confederate loss, 99 killed and wounded and 34 missing. Among the Confederate killed was Capt. John Pelham, a young artillerist of much promise. A portion of Pleasanton's cavalry division crossed the ford and took part in the battle of Fleetwood (q.v.) 9 June 1863. When General Meade began his Mine Run campaign (see MINE RUN) two corps of the Army of the Potomac under General Sedgwick forced the passage of the Rappahannock at the railroad crossing, 7 Nov. 1863, while General French, with two corps, forced the passage at Kelly's Ford, five miles below. The advance of the Third corps crossed with a loss of 36 killed and wounded, the Confederate loss being 64 killed and wounded and 295 captured, and the Army of the Potomac was united at Brandy Station. Preceding and following these engagements the ford was the scene of many stirring events.

KELOID, or CHELOID, a cutaneous tumor, non-malignant in character, similar in appearance to the ridge-like scar which sometimes completes the healing of a wound. The disease was named by Alibert because of the claw-shaped processes which radiate from its extremities. It is now thought to be due to an injury, although earlier medical authorities attributed its growth to an inherent tendency. Investigations show that it follows an injury to the cuticle such as bruises, scratches, abrasions, undue pressure of clothing, an incision, as vaccination, piercing the ears or a leech bite, and from boil, acne or smallpox scars. The keloid rises about an eighth of an inch above the surface of the skin, is smooth and flat, devoid of hairs and either red or white in coloring. It is fibrous in its nature and changes the walls of the neighboring blood vessels so that in removing it the surrounding affected tissue must likewise be taken. Cauterization is sometimes practised for its removal but the keloid usually returns, and excision is not always of permanent value. The growth remains stationary after reaching a certain stage. The keloid occasionally causes pain or itching which under the direction of a physician may be relieved by applications of resorcin, lead salicylated plaster or mercurial preparations.

KELOWNA, British Columbia, Canada, village in the Yale and Caribou districts, 80 miles southwest of Sicamous and 28 miles from Okanagan Landing, on the Canadian Pacific Railway and on Okanagan Lake. The village had in 1905 a population of 200, which had increased to about 3,000 in 1918 owing to the development of some 50,000 acres of surrounding fruit land. There is likewise a considerable acreage in tobacco and the timber industry is important. The town is modern in its equipment, owning its park, recreation grounds, light, power and water systems, and possesses mills, factories and plants to care for the products of the neighboring fruit, tobacco and timber land. Pop. est. 3,000.

KELP, any of several large broad-leaved fucoid seaweeds (q.v.), which were formerly burned for their content of potash, iodine, sodium, etc., and used for other purposes and which have attracted renewed attention since the German embargo upon Stassfurt potash salts. The ash is known as "kelp" (or in France as *varec*), and was formerly produced in large quantities by slowly charring several tons of the weed in shallow pits. The yield in ash was about 5 per cent of the weight of the mass burned. This crude ash contains several salts, especially carbonates and sulphates of sodium and potassium, with other substances in smaller proportions.

KELP-CRAB, a large, squarish, edible crab (*Epialtus productus*), numerous in rocky weed-covered places along the Pacific coast from Monterey to Puget Sound.

KELP-FISH, a large blenny (*Heterostichus rostratus*) of the Californian coast, which is sold for food in the local markets. It is reddish brown, much streaked and mottled, so that it is practically invisible among the seaweeds (kelp) where it usually lurks. Many other more or less similar fishes are called kelp-fishes in other parts of the world.

KELP GOOSE, a white plumaged goose similar to the brant and closely related to the Magellanic and other southern hemisphere species. It is native to Patagonia and Falkland Islands and is variously classified as *chloephaga antartica* and *chloephaga hybrida.*

KELP PIGEON, a popular name for the sheathbill, especially the *Chionis minor,* or the *Chionis alba* of the Falklands. It is said to be so called by sailors on account of its habitual resorts, size and white color. See SHEATHBILL.

KELPIE, or KELPY, the angry spirt of the water, a Scottish mythological personage who figures prominently in folklore. He is described as a fearful water spirit who delights in rushing out of the lake, the river or the sea to catch some poor human victim and to devour him or to drag him down to his death beneath the surface of the water. As he rushes out of his native element the water tumbles from his back with a terrible swishing noise like the

roar of the angry sea. According to some stories the kelpie was so named because he lurked among the kelpie or sea-weed, which grows very high and tangled in many parts along the coasts of Scotland. Blown by the sea breezes and lashed by the tide at high water, it assumes fantastic forms which are pictured by the Scotch story-tellers as taking the form of the kelpie himself whom tradition says has, like the Grecian Cyclops (q.v.), but one eye, but that more fearful than any two eyes. Other authorities claim that the word kelpie is related to the German "chalp" or "kalb" derived from the roar which it was supposed to make when it rushed upon its victims. This idea no doubt originated in the roaring of the ocean waves, which seem to have been personified in the person of the kelpie, which is also often represented to be a white horse which frequently presents itself in the most beautiful form, thus inducing people to mount on its back. When this is accomplished it rushes off at such fearful speed that the rider cannot dismount and so is drowned in the sea or eaten by the horse.

An Irish myth makes Mananan, son of the sea-god Lir, and himself Lord of the Sea, ride on the "white horses," a poetical personification of the crested waves of the ocean. His great cloak flapped like the clapping of thunder as he rode his fearful white horses around his island home (the Island of Man), especially at midnight. This island is said to have derived its name from the idea that it was the favorite home of the Lord of the Sea. The devouring or malignant water spirit is a mythological character known to most of the Indian tribes of America. Among the Aztecs the "Crying woman" whom the Spaniards name the "Llorona" (q.v.) hid in deep pools of water to which she attracted people at night by imitating the crying of a lost child. When the victim, following the voice, fell into the pool, she dragged him by the feet down to his death.

The Greeks and the Romans believed in a similar character who, the myth said, lured people to death in the water. The kelpie, like the Mexican "woman with the light," forewarned people of coming death. Often this "fool's light" or "will of the wisp" or "ignis fatuus" (q.v.) lead people on to death. This superstition, no doubt, had its origin in the fact that people, following the natural lights that frequently appear in swampy places, sank in the boggy soil and lost their lives. The kelpie, like the Aztec Llorona, was also represented as dragging its victims down to death in the boggy or marshy lands of its habitat. The fact that there were frequent deaths of this kind would easily explain the superstition that the roaring of the kelpie presaged death. That this death should be through the agency of water was quite natural since the kelpie was a water-spirit.

Though this kelpie myth takes various forms among different races it seems to have been a very primitive myth of the great Indo-European family among all the members of which it appears. The special "kelpie" form it assumed in Scotland is easily accounted for by the destructive force of the sea which almost surrounds the country. It seems, therefore, to be but a local development of the great white sea-horses of Mananan (Welsh Manawyddan) in whose sea lay the "Islands of the Dead." This latter belief would also account for the superstition that the roaring or appearance of a kelpie presaged death.

KELSEY, Francis Willey, American educator and writer: b. Ogden, 1858. Graduated from the University of Rochester and after two years' study in Europe, he became professor of Latin in Lake Forest University (1880–89) and later in the University of Michigan (1889). He has edited many Latin and Greek textbooks for schools. Working cojointly with Prof. Percy Gardner of Oxford University they edited 'Handbooks of Archæology and Antiquities,' a series to be found in most public and school libraries. Professor Kelsey edited 'Latin and Greek in American Education' (1911), and 'Pompeii: Its Life and Art' (a translation of Augustus Maw's work, 1902). He has been president of the American Philological Association (1907–12), and of the Archæological Institute of America.

KELSO, James Anderson, American clergyman and educator: b. Rawal Pindi, India, 6 June 1873. He received his college education at Washington and Jefferson College; and his theological training at Western Theological Seminary, Pittsburgh, Pa., supplemented by work in the universities of Berlin and Leipzig. He was ordained to the Presbyterian ministry in 1898. He was instructor in Hebrew in Western Theological Seminary, 1897–1900; since then professor of Hebrew and Old Testament Literature. He was acting president 1908–09, and president since May 1909. He is the author of several articles in Hastings' 'Encyclopædia of Religion and Ethics'; Hastings' 'Dictionary of the Bible,' and the 'Standard Bible Dictionary.' He has published 'Die Klagelieder, der Masoretische Text und die Versionem' (1901); with Culley, David E., 'Hebrew-English Vocabulary to the Book of Genesis' (1917).

KELSON, KEELSON, a line of timbers on the middle of the floor limbers of a wooden ship over the keel. See KEELSON.

KELT, in Scotch, a salmon that has spawned, or as the local term expresses it, "spent themselves." Salmon in this condition are also popularly known as black salmon.

KELTIE, Sir John Scott, Scottish geographer: b. Dundee, Scotland, 29 March 1840. He is editor of the 'Statesman's Year Book' since 1880, was editor of the *Geographical Journal*, 1915–17, and has written extensively on geographical and scientific topics in newspapers and periodicals. He has published 'History of Scottish Highlands and Clans' (1874); 'Report on Geographical Education' (1886); 'Applied Geography' (1890); 'The Partition of Africa' (1894); and with Howarth, O. J. R., 'History of Geography' (1913). He has also edited 'Works of the British Dramatists' (Edinburgh 1872); 'The Story of Emin's Rescue As Told in H. M. Stanley's Letters' (New York 1890); 'The Story of Exploration' (3 vols., New York 1903–04), and with H. J. Mackinder and E. G. Ravenstein, 'The World's Great Explorers' (2 vols., London 1891). He is a member of geographical societies all over the world, has received a number of honorary degrees, holds many medals, amongst them the Cullum gold medal of the American Geographical Society (1915), and was knighted 2 Jan. 1918.

KELTON, John Cunningham, American soldier: b. Delaware County, Pa., 1828; d. Washington, D. C., 15 July 1893. He was graduated at West Point in 1851, received the commission of lieutenant in the infantry and served for six years in the frontier garrisons of Minnesota, Kansas and Dakota. At the conclusion of that period he was ordered to West Point as instructor in the use of small arms. During the Civil War he returned to active service and in 1861 became purchasing agent for the Western Department. The same year he was put in command of the 9th Missouri Volunteers, with the commission of colonel. In 1862 he was appointed to the staff of Major-General Halleck, as assistant adjutant-general, and in 1865 brevetted brigadier-general in the regular army. He was appointed after the war a staff colonel and assistant adjutant-general of the Pacific Department and later at Washington; and invented improvements in military firearms which met with the acceptance of the Ordnance Department. He retired from active service 24 June 1892 and from then on till his death was governor of the Soldiers' Home, Washington, D. C. Among his works on military subjects may be mentioned a 'New Manual of the Bayonet' (New York 1861); 'Information for Riflemen on the Range and Battlefield' (San Francisco 1884).

KELTS. See CELTS.

KELUNG, kē-lŭng, **KILUNG,** the principal shipping port of the island of Formosa. It has an excellent modern harbor, which has comparatively recently been dredged and made to accommodate large ocean-going vessels, especially deep-draught freighters. It is surrounded by excellent coal mines whose output furnish the chief cause of the harbor activity. Kelung has grown rapidly, within recent years, from a little fishing village of about 1,000 inhabitants, to a flourishing, more or less modern city of over 20,000. This is due principally to its extensive export business in coal, with minor shipments of sulphur and gold from the local mines. Kelung has railway connection with Daihoku (Taipeh), Kagi, Shinchiku and Tamsui.

KELVIN, Lord. See THOMSON, SIR WILLIAM.

KEMBLE, Adelaide. See SARTORIS, ADELAIDE KEMBLE.

KEMBLE, Charles, English actor, 11th child of Roger Kemble (q.v.), and younger brother of John Philip Kemble (q.v.): b. Brecon, South Wales, 25 Nov. 1775; d. London, 12 Nov. 1854. He was educated at the English Roman Catholic College at Douai, France, and in 1794 made his first appearance at Drury Lane as Malcolm to his brother's Macbeth. In 1800 he produced at the Haymarket Theatre his adaptation of Mercier's 'Deserteur,' under the title of 'The Point of Honor,' which achieved considerable success. In 1807 his play of 'The Wanderer,' adapted from Kotzebue, and in 1808 his farce of 'Plot and Counterplot,' were both successfully brought on the stage. As an actor he gained special celebrity by the performance of such characters as Falconbridge, Edgar, Romeo, Charles Surface, Cassio, Don Felix and Benedick. His impersonations were greatly heightened by the physical advantages which he possessed of a fine voice, handsome features and a tall athletic figure. About 1840 he was appointed to the office of examiner of plays and shortly afterward made his last appearance on the stage. He subsequently gave occasionally public readings from Shakespeare. He was the father of John Mitchell Kemble (q.v.), the philologist, and of Fanny and Adelaide Kemble (q.v.). Consult Fitzgerald, 'The Kembles' (1871).

KEMBLE, Edward Windsor, American caricaturist and illustrator: b. Sacramento, Cal., 1861. After a short time spent at the Art Students' League, in New York city, he became regular art contributor to the *Graphic* and, later on, to the *Century* and other New York illustrated magazines. He made a specialty of negro characters; and 'Kemble's Coons' (1898–1900) became very popular. Among his various books of drawings are 'Rosemary,' 'Virginia Creeper,' 'Billy-Goat and Other Comicalities,' 'Blackberries,' 'Kemble's Sketch Book,' 'Coontown's 400' and 'A Pickaninny Calendar. He was illustrator for *Collier's* (1903–07) and *Harper's Weekly* (1907–12). He has also illustrated 'The Knickerbocker History of New York' and other books.

KEMBLE, Elizabeth. See WHITLOCK, ELIZABETH KEMBLE.

KEMBLE, Frances Anne, English actress and author, daughter of Charles Kemble (q.v.): b. London, 27 Nov. 1809; d. here, 16 Jan. 1893. She manifested no special predilection for the stage, but made her début at Covent Garden, then under the management of her father, in October 1829. On this occasion she played Juliet, her father taking the part of Romeo, and her mother that of the nurse, with complete success. For the three succeeding years she performed leading parts in tragedy and comedy with great applause, distinguishing herself particularly in Juliet, Portia, Bianca in Milman's 'Fazio,' Julia in the 'Hunchback' (the latter being originally personated by her), Belvidera, Isabella, Lady Teazle and Louise de Savoy in her own play of 'Francis the First,' written when she was 17 and received with approbation. In 1832 she accompanied her father to the United States and met with an enthusiastic reception in the chief cities. In 1834 she was married to Pierce Butler, a Georgia planter, and retired from the stage. The union proving unhappy, a separation took place at the end of a few years, and Mrs. Butler fixed her residence in Lenox, Mass. In 1849 she secured a divorce and resumed the name of Kemble. Her first work in prose, 'A Journal of a Residence in America' (1835) was chiefly devoted to a description of her tour through the United States. It was followed in 1837 by a drama, 'The Star of Seville,' acted with success; and in 1844 appeared a collection of her poems. Later works were 'A Year of Consolation' (1847); 'Residence on a Georgia Plantation' (1863); 'Record of a Girlhood' (1878–79); 'Records of Later Life' (1882); 'Notes upon Some of Shakespeare's Plays' (1882); 'Poems' (1883); 'Far Away and Long Ago,' a story (1889); 'Further Records' (1891). In the winter of 1848–49 she commenced in Boston a series of Shakespearean readings which drew crowded audiences, and during the next two years

repeated the course in some of the principal American cities. In 1851 she returned to England, reappeared for a brief period on the stage and gave readings in London and other parts of the United Kingdom. In 1856 she returned to the United States and continued for several years at intervals to give readings in Boston and elsewhere. Her grandson, Owen Wister (q.v.), is a well-known American writer.

KEMBLE, Gouverneur, American manufacturer: b. New York city, 1786; d. 1875. Graduated from Columbia in 1803, he became United States consul at Cadiz, where he made himself active in the securing of war and other materials needed by the American government during the war with Algiers (1815). While in Europe he took great interest in the study of arms and ammunition, which was partly forced on him owing to the needs of the United States government; and on his return home in 1817, he put his European acquired knowledge into practice by the establishment, at Cold Spring, N. Y., of the West Point foundry, for the manufacture of cannon on the latest European models. Kemble was a politician as well as a diplomat and manufacturer, and he was Congressional Democratic member from 1837 to 1841. He was also interested in the study of the history of New York and New Jersey (States) and among his literary friends was Washington Irving, who took Kemble's house in Newark, N. J., as the model for his Cockloft Hall in 'Salamagundi.'

KEMBLE, John Mitchell, English Anglo-Saxon scholar: b. London, 2 April 1807; d. Dublin, 26 March 1857. He was educated at Trinity College, Cambridge, and having early directed his attention to Anglo-Saxon language and history, employed himself in the ancient MSS. in the libraries of the university. The first fruits of his researches appeared in 1833, in the publication of the Anglo-Saxon poem 'Beowulf,' in 1834, and issued a pamphlet on the 'History of the English Language, First or Anglo-Saxon Period.' He edited in seven octavo volumes, for the English Historical Society, a collection of all the known charters of the Anglo-Saxon period, under the title of 'Codex Diplomaticus Ævi Saxonici,' and in 1849 appeared his most valuable and best-known work, 'The Saxons in England.' Kemble was for many years editor of the *British and Foreign Review,* and in 1840 succeeded his father, Charles Kemble (q.v.), as censor of plays, which office he occupied till his death.

KEMBLE, John Philip, English tragedian, eldest son of Roger Kemble (q.v.): b. Prescott, Lancashire, 1 Feb. 1757; d. Lausanne, Switzerland, 26 Feb. 1823. He was educated at the Roman Catholic seminary of Sedgley Park, Staffordshire, and the College of Douai, France, where he early distinguished himself by his proficiency in elocution. On his return to England he entered immediately upon the profession of an actor and appeared for the first time in London at Drury Lane, 30 Sept. 1783, in the part of Hamlet and was received with great applause. It was not, however, till 1788 that he took a decided lead in tragedy. He afterward obtained the management of Drury Lane Theatre, where his sister, Mrs. Siddons (q.v.), was the leading actress. In 1794 he brought out a musical entertainment of his own, entitled 'Lodoiska,' which had a great run. In 1802 he became manager of the Covent Garden Theatre, where he continued his career with great success till the destruction of the theatre by fire in 1808. In the autumn of 1809 the new edifice which had been constructed opened with an increase of prices, which, with certain obnoxious arrangements in regard to the private boxes, created for a series of nights the disturbances known by the name of the O. P. riots. Kemble retired from the stage 23 June 1817. As an actor he was distinguished for dignity, precision and studious preparation. His merits were differently appreciated, but by all he was regarded as a highly gifted actor, and the impressions made in characters more immediately adapted to his style of excellence, such as Cato, Coriolanus, Hamlet, John, Jaques, Penruddock, was very great. Consult Boaden, 'Memoirs of the Life of John Philip Kemble' (1825).

KEMBLE, Marie Thérèse de Camp, an English actress: b. Vienna, Austria, 1774; d. 1838. Her parents and several of her ancestors had been actors; and while still a child she was taken to England by her parents, who had found an engagement there. She early appeared on the English stage; and in 1806 she married Charles Kemble (q.v.) with whom she continued to appear on the stage for the next 13 years. She understood the technic of the stage well and wrote several plays which were popular in their day. These were of a fragmentary character. Her daughter, Fanny Kemble (q.v.), inherited her dramatic ability as actor and writer.

KEMBLE, Roger, English actor and theatrical manager: b. Hereford, 1 March 1721; d. 6 Dec. 1802. John Philip Kemble (q.v.) and Mrs. Siddons (q.v.) were his children. He organized in 1753 a traveling company in which many members of his family appeared. In 1788 he appeared at the Haymarket as Falstaff and the Miller in 'The Miller of Mansfield,' when, although rated as a mediocre actor, he is said to have played «with very superior effect.»

KEMBLE PLAYS, a collection of English dramas made by the English actor John Philip Kemble (q.v.). This collection, which includes many original manuscripts of early English dramatic works, among them first editions of Shakespeare's plays, is now in the library of Devonshire House, London.

KEMÉNY, kĕ'mā-ny, **Zsigmond,** Baron, Hungarian novelist, essayist and political writer: b. Magyar-Kapud, Transylvania, 1816; d. 1875. He combined newspaper work with his serious literary efforts and played politics on the side, being editor of *Pesti Hirlap* and *Pesti Napló* and deputy to the National Assembly. Among his novels, which are generally long and of a semi-historical semi-psychological character, are 'Gyulai Pal' (5 vols., 1846); 'Ferj és nö (1852); 'Sziv örvényei' (1854); 'Az özvegy es léanya' (1856); 'Zord idö' (1859). A collection of his essays, under the title of «Studies,» appeared in English.

KEMEYS, Edward, American sculptor: b. Savannah, Ga., 31 Jan. 1843; d. 11 May 1907. He was educated in New York and served in

the Civil War as captain in the artillery. He resigned in 1866 and went west, where he saw something of Indian life, and became familiar with the habits and forms of big game. He returned to New York and worked as a civil engineer in the laying out of Central Park, but did not choose the profession of art until 1870, when he resolved to become a sculptor. He went abroad in 1877 and his exhibits in Paris and London attracted attention, especially his 'Fight between a Buffalo and Wolves' in the Salon of 1878. He made American wild animals his specialty. He was in short the American Barye: his 'Panther and Deer,' his 'Coyote and Raven,' are noteworthy for their fidelity to nature and life-like expression, and he was also remarkably successful in his figures of the North American Indian.

KEMMERER, Edwin Walter, American educator and writer on economics: b. Scranton, Pa., 1875. Graduated from Cornell University in 1903, he became instructor in economics at Perdue University (1901–03), assistant professor at Cornell of political economy and later professor of economics and finance (1906–12), professor of economics and finance at Princeton (1912–17). In 1903 he was financial adviser to the United States Philippine Commission and for the following three years was chief of the currency division of the Philippine Islands; and special commissioner to Egypt from the Philippine government (1906) and financial adviser to the Mexican government. He has been a constant contributor to economic publications of various kinds and edited the *American Economic Review* (1911–14). His numerous published works are all on economic subjects, most of them in connection with the special work in which he has been interested either as university professor or government adviser on economic subjects. Among his latest works are 'Modern Currency Reforms' (1916); and 'The United States Postal Savings System' (1917).

KEMNITZ, or CHEMNITZ. See CHEMNITZ, MARTIN.

KEMP, James Furman, American educator and geologist: b. New York city, 1859. Graduated from Columbia School of Mines in 1884, he became assistant professor of geology there in 1891 and professor in 1892. In addition to his university work he has acted as United States geologist and served in the same capacity for the State of New York. He has also been lecturer on his special subjects at Johns Hopkins, Massachusetts Institute of Technology and McGill University, Canada, from all of which institutions he has received honorary degrees. He has been president of the New York Academy of Science and of the American Institute of Mining Engineers. Among his published works are 'Ore Deposits of the United States and Canada' (1893 and 1900), and 'Handbook of Rocks' (1896 and 1911).

KEMPE, Charles Eamer, English artist in stained glass: b. Ovingdeane, Sussex, 29 June 1837; d. 30 May 1907. He received his early education at Rugby, and was graduated at Oxford University. His principal works were in stained glass of the 13th century style in which were color, drawing and expression of a unique excellence. He was distinctly a religious painter, who chose as his medium the most difficult and intractable of materials, and achieved supreme artistic and devotional success. His principal production in this country is the remarkable Jesse window in the church of the Advent, Boston, which bears comparison with the more famous Jesse window of Troyes, France. He designed and executed many fine windows for the cathedrals of Lichfield and Durham. "The Jane Austen" window in Winchester Cathedral was one of his later creations.

KEMPE, John, English cardinal, archbishop of Canterbury and Chancellor: b. about 1380; d. 22 March 1454. He received his education at Merton College, Oxford; took up the practice of ecclesiastical law, was an assessor at Oldcastle's trial and became dean of the Court of Arches in 1415. Soon afterward he was attracted to the service of the king, by whom he was given a place in the government of Normandy. Later Kempe was appointed chancellor of the Duchy of Normandy; and in 1419 was chosen bishop of Rochester, and was consecrated at Rouen in the same year. He was translated to Chichester early in 1421 and after a few months to London. In 1426 Kempe was made chancellor and in the same year became archbishop of York. He remained in the office of chancellor until 1432 and succeeded in keeping a close restraint on Humphrey of Gloucester. To placate the latter Kempe's resignation was brought about in 1432. He was still an important member of the council and in 1435 was sent to the Congress of Arras and in 1438 to that at Calais. Kempe was created cardinal in 1439 and for a time remained aloof from politics. In 1450 Kempe for the second time became chancellor, being the most acceptable candidate to the opposing parties. He dealt firmly with Cade's rebellion and vigorously upheld the royal authority. In 1452 he was made archbishop of Canterbury.

KEMPENEER, Peter de. See CAMPANA, PEDRO.

KEMPER, James Lawson, American soldier and politician: b. Madison County, Va., 11 June 1823; d. Orange County, Va., 7 April 1895. Graduated from Washington College (Lexington, Va.) in 1842, he studied law at Charlestown (Va.), served in the Mexican War as captain of volunteers, and for 10 years was a representative in the Virginia legislature, during two of which he was speaker of the house. In 1861 he was appointed colonel of the 7th Virginia, C. S. A.; in 1862 fought at Fair Oaks (31 May–1 June), where he was commissioned brigadier-general; and later also at Frayser's Farm (30 June), South Mountain (14 September), Antietam (16–17 September), and Fredericksburg (13 December). He was severely wounded at Gettysburg, was subsequently detailed to command the forces in and about Richmond, and 1 March 1864 was promoted major-general. After the war he practised law in Madison County, was Democratic governor of the State in 1874–78 and at the close of his term became a planter in Orange County. He published a collection of messages to the State legislature (1876).

KEMPER, Reuben, American soldier: b. Fauquier County, Va., 1770; d. Natchez, Miss., 10 Oct. 1826. He emigrated to Ohio in 1800, and subsequently removed with two of his brothers to the Territory of Mississippi, where

they were leaders in the movement to rid West Florida of Spanish rule. The Spanish authorities caused the Kempers to be kidnapped, but they were rescued by the commander of the American fort at Point Coupee. The Kempers pursued with great ferocity all who were engaged in this wrong upon them, and Reuben devoted himself to the task of driving the Spaniards from the American continent. He was engaged in an attempt to capture Mobile, which failed; and on the fitting out of the formidable expedition of Gutierrez and Toledo, in 1812, against the Spanish authority in Mexico, was assigned the rank of major, and afterward chosen colonel of the force, which co-operated with the Mexican insurgents. The expedition advanced into Texas, fought several bloody battles, in which Kemper and his Americans performed extraordinary feats of valor, and won brilliant victories. Kemper was subsequently engaged under General Jackson in the defense of New Orleans, and added greatly to his reputation as a soldier by his activity and efficiency. At the conclusion of the war he became a planter in Mississippi.

KEMPFF, Louis, American rear-admiral: b. Belleville, Ill., 11 Oct. 1841. He was graduated at the United States Naval Academy in 1861 and served with distinction throughout the Civil War. He was promoted captain in 1891 and became rear-admiral in 1899. When the Boxer troubles began in China in 1900 he was placed in command of the United States naval forces in Chinese waters. On 29 May he sent 108 marines ashore, who co-operated with the men landed from the other foreign warships in the harbor at Taku. When on 16 June the senior naval officers of the other foreign nations drew up and signed a demand for the surrender of the Taku forts Rear-Admiral Kempff declined on the ground that as long as the Chinese Imperial authorities placed no obstacle in the way of his going to the assistance of his countrymen he had no just ground to commit an act of war against a country with which his own was at peace. During the subsequent bombardment the United States ship *Monocracy,* which was some distance up the river above Taku and had her flag flying, was struck by a shot from the forts. When this fact was officially established Rear-Admiral Kempff joined in with forces at hand for protection of life and property of Americans. For the judgment displayed on that occasion a joint resolution was pending in the 57th Congress conferring on him the thanks of Congress. He was retired from active service in October 1903.

KEMPIS, Thomas à, German mystic and devotional writer: b. Kempen, near Cologne, 1380; d. Mount Saint Agnes, near Zwolle, Netherlands, 26 July 1471. His real name was Hamerken or Hämmerlein. He was educated at Deventer by the Brethren of the Common Life, a religious order of men who passed a contemplative existence in transcribing manuscripts, compiling and writing religious books of various sorts, and religious exercises. In 1399 he entered the monastery of Mount Saint Agnes, near Zwolle, of which his brother was prior, took the monastic vows in 1406, was ordained priest six years afterward and in 1425 was elected sub-prior. He excelled as a copyist, and delighted to transcribe the Scriptures, the Church fathers and works of ascetic piety, while the fame of his eloquence and zeal was widely extended. He owes his present renown to his treatise 'De Imitatione Christi,' which has been translated into every language in Christendom. Over 2,000 editions have appeared. It has been wrongly but somewhat naturally attributed to the renowned theologian Gerson, chancellor of the University of Paris, and the question was debated with a view to national honor and the interests of ecclesiastical orders. The evidence in favor of the authorship of à Kempis is overwhelming. Three writers nearly his contemporaries mention him as the author. Moreover several copies written in his own hand are extant, and in one ancient copy he is expressly named as the author. Both the literary style and the tone of refined piety which characterize this work are also distinguishing features of other devotional works of which he is certainly the author. The first English translation of the 'Imitatione' was made by W. Atkinson and Princess Margaret, mother of King Henry VII, and was published in London in 1502. (See IMITATION OF CHRIST). Consult Bähring, B., 'Thomas von Kempen, der Prediger der Nachfolge Christi' (Leipzig 1872); Cruise, T., 'Thomas à Kempis' (London 1887); Kettlewell, S., 'Thomas à Kempis and the Brothers of the Common Life' (London 1884); Wheatley, L. A., 'Story of the Imitation of Christ' (London 1891); Wolfsgruber, 'Giovanni Gerson, sein Leben und sein Werk De Imitatione Christi' (1880); Schaff-Herzog Encyclopedia of Religious Knowledge (New York 1910).

KEMPT, SIR James, British soldier and administrator: b. 1764; d. 1854. He entered the army in 1783, and saw service in Holland, in Egypt, commanded a brigade in the Peninsula and was wounded at Badajoz, and was in command of a division at Quatre Bras and Waterloo. He was lieutenant-governor of Nova Scotia 1820–28, and governor-in-chief of Canada 1828–30.

KEMPTEN, kĕmp'tĕn, a city in Swabia, Bavaria, about 80 miles southwest of Munich by which it is connected by rail. Old and new Kempten were united in 1803 to form one corporation. The town contains the usual picturesque buildings of a Bavarian city of its size and age. Kempten is quite a commercial and manufacturing place and possesses factories for the produce of machinery, cotton goods, mathematical and other instruments, matches, paper, woodenware, cheese, thread, hosiery, powder and firearms. Pop. 25,000.

KEN, or KENN, Thomas, English bishop and hymnologist: b. Great or Little Berkhamstead, Hertfordshire, July 1637; d. Longleat, Wiltshire, 19 March 1711. He was educated at Winchester School, graduated from New College, Oxford and became successively domestic chaplain to Bishop Morley (1665); rector of Brightstone, Isle of Wight (1667); and prebend of Winchester (1669). He spent five years traveling on the Continent with his nephew, the younger Izaak Walton, living principally at Rome (1675–80), and accompanied Mary, Princess of Orange, to Holland, as domestic chaplain. In 1680 he was appointed chaplain to Charles II, attended him in his last illness, and was nominated by him to the bishopric of Bath and Wells (1684). He suf-

fered deprivation with other non-jurors (q.v.) on the accession of William of Orange, for maintaining allegiance to James II (1691). He was one of the lights of the English Church in one of the darkest periods of English social life, and by his zeal and devotion did much to maintain the standard of Christian conduct, his personal example of goodness being backed by learning, taste and breadth of sympathy. His theological and devotional writings are principally valuable for the personality with which they are connected, but his famous 'Doxology,' as well as the 'Morning Hymn,' beginning with "Awake, my soul," and the 'Evening Hymn' have won him imperishable fame as a guide and inspirer of Christian devotion. Consult 'Dictionary of National Biography' (Vol. XXX, London 1892); Plumptre, Dean, 'Life of Bishop Ken' (London 1890).

KENA, kĕn'a, **KENEH, GENEH,** capital of an Egyptian province of same name on the Nile. See KENEH.

KENAI, kĕ-nī', a peninsula in the southern part of Alaska, with Prince William Sound on the east, Gulf of Alaska east and south and Cook Inlet on the west. It is about 160 miles long and 110 miles across the widest part. It has good harbors, valuable coal fields, and some gold has been discovered.

KENDAL, Margaret Brunton Robertson (GRIMSTON), English actress: b. Great Grimsby, 15 March 1849. She was a sister of T. W. Robertson, the dramatist (q.v.); was known on the stage as "MADGE ROBERTSON" and appeared in London as Ophelia in 1865. She soon gained a reputation as an talented actress in high comedy. On her marriage to W. H. Grimston (q.v.) in 1869 she assumed with him the stage name of Kendal. Together they achieved great success at the Haymarket Theatre in a series of Shakespearean and Old English comedy revivals. Later from 1879–89 they were associated with Mr. (afterward Sir) John Hare. They made several phenomenally successful tours in the United States and Canada from 1889, and retired from the stage in 1908.

KENDAL, William Hunter (WILLIAM HUNTER GRIMSTON), English actor: b. London, 16 Dec. 1843; d. 7 Nov. 1917. After his marriage to Madge Robertson (see KENDAL, M. B. R.) in 1869, he played leading parts with her. He commenced his career on the stage at Glasgow in 1862, where he remained till 1866, supporting such stars as Mr. and Mrs. Charles Kean, Helen Faucit, G. O. Brooks, etc.; made his first appearance in London at the Haymarket Theatre in 1866, in 'A Dangerous Friend,' played there such parts as Charles Surface, Captain Absolute, Romeo, Orlando, Pygmalion, and in 1879–88 was lessee and manager with John Hare of the Saint James Theatre, where were produced 'The Queen's Shilling'; 'The Squire'; 'Impulse'; 'The Ironmaster'; 'A Scrap of Paper'; 'Lady of Lyons', and 'As You Like It.' He toured with Mrs. Kendal in the United States and Canada in 1889–95.

KENDAL, KIRBY KENDAL, a town and municipal borough in Westmoreland, England. It dates back to 1576 as an incorporated town. It is a noted centre of the woolen trade; and the woolen cloths manufactured there are known as "kindols." In Kendal are also produced excellent carpets, cottons, worsted stockings, doeskins, tweeds, linsey-woolseys and linings of various kinds (especially those for coats), machinery, gunpowder, shoes, leather, paper, combs and cards. Pop. 14,000.

KENDALL, Amos, American journalist and statesman: b. Dunstable, Mass., 16 Aug. 1789; d. Washington, D. C., 11 Nov. 1869. He was graduated from Dartmouth in 1811, studied law at Groton, Mass., in 1811–14, was admitted to the bar at Frankfort, Ky., in 1814, was postmaster and editor of the *Patriot* at Georgetown, Ky., in 1815–16, and in 1816–29 coeditor and part owner of the *Argus of Western America* at Frankfort. In 1829 he was appointed fourth auditor of the United States treasury, and during the Jackson administration he was extremely influential. He aided in the formation of the President's anti-bank policy (see JACKSON, ANDREW), was a special treasury agent to conduct negotiations with State banks, and is thought to have written several of Jackson's state papers. Appointed Postmaster-General by Jackson in 1835, he was retained by Van Buren, but in 1840 resigned because of ill health. He cleared the Post-Office Department of debt, and introduced numerous reforms. He established *Kendall's Expositor,* bi-weekly, in 1841, and the *Union Democrat,* weekly, in 1842, but both journals shortly ceased publication. In 1845 he became associated with S. F. B. Morse (q.v.) in the ownership and management of the Morse electric telegraph patents, and by his able direction ensured their commercial success and a fortune for himself. He gave largely in Washington for philanthropic purposes. Though calling himself a Jackson Democrat, he strongly opposed secession. He wrote an incomplete 'Life of Andrew Jackson, Private, Military, and Civil' (1843); 'Full Exposure of Dr. C. T. Jackson's Pretensions to the Invention of the Electro-magnetic Telegraph' (1867), and an 'Autobiography' (posthumously published, 1872).

KENDALL, George Wilkins, American journalist: b. Amherst (now Mount Vernon), N. H., 1809; d. Oak Springs, Tex., 22 Oct. 1867. Settling in New Orleans in 1835, he was one of the founders of the New Orleans *Picayune* in 1837, which became under his direction one of the leading journals of the South. He was one of the earliest war correspondents, seeking most of the fighting in Mexico during the Mexican War as his paper's representative with the United States army of occupation under General Scott. He wrote 'Narrative of the Texan Santa Fe Expedition' (2 vols., New York 1844), an expedition in which he took part; and 'The War Between the United States and Mexico' (New York 1851). Consult Bullard, F. L., 'Famous War Correspondents' (Boston 1914).

KENDALL, Henry Clarence, Australian poet: b. Ulladulla district, New South Wales, 18 April 1841; d. Redfern, near Sydney, 1 Aug. 1882. He became a lawyer's clerk at Sydney in 1860, in 1863 a clerk in the Lands Department of the New South Wales public service; later was in the colonial secretary's office; in 1869–73 was active as a journalist at Melbourne; and for some time previous to his death was an inspector of forests. His chief volumes are 'Poems and Songs' (Sydney 1862); 'Leaves from Australian Forests' (Melbourne 1869), and 'Songs from the Mountains' (Sydney 1880). He

has been called the "poet of the bush" because of his skilful delineation of the character of Australian landscape. In 1886 appeared a collected edition of his verse, with a memoir. Consult Martin, A. P., 'Concerning Australian Poets' (in Sladen, D. B. W., ed., 'Australian Poets, 1788–1888', London 1888); Rowland, P. F., 'The Literature of the Australian Commonwealth' (in *Nineteenth Century*, Vol. LI, p. 657, London 1902); Sladen, D. B. W., 'A Study of Henry Kendall as a Bush Poet' (in id., ed., 'Australian Ballads and Rhymes,' London 1888).

KENDALL, William Mitchell, American architect: b. Jamaica Plain, Mass., 1856. After an extended course in architecture at home and in Italy and France, he returned to New York city. He has taken part in the designing of many important edifices, among them the post-office, municipal building, Avery Library (Columbia University), School of Journalism (Columbia University) all in New York City. He has also extended his work to Chicago and other American cities.

KENDALL, William Sergeant, American painter and sculptor: b. Spuyten Duyvil, N. Y., 20 Jan. 1869. He began as a member of the Art Students' League of New York, and subsequently was a pupil of Thomas Eakins of Philadelphia. He went to France and attended the Ecole des Beaux Arts, and also studied under Olivier Merson. He is equally successful in figure, portrait and landscape, and in recent years also has taken up sculpture with considerable success. His best work, however, is to be found amongst his many charming portraits of children. He has received many honors — amongst which were gold medals at Saint Louis (1904) and San Francisco (1915) and membership in the National Academy since 1905 — and in many domestic and foreign art associations — in acknowledgment of his merit as a fine colorist and powerful draftsman. One of his best pictures is 'The End of the Day,' in which tender sentiment is united with workmanship of excellence. It is now in the National Gallery, Washington, D. C., where may also be seen 'An Interlude.' Other well-known paintings from his brush are 'Psyche' and 'The Seer,' both in the Metropolitan Museum of Art, New York; 'Beatrice,' in the Academy of Fine Arts, Philadelphia; 'Narcissa,' in the Corcoran Gallery, Washington, D. C.; 'Crosslights,' in the Museum of Art, Detroit, Mich.; 'Intermezzo,' in the Rhode Island School of Design, Providence, R. I. Since 1913 he has been director of the School of Fine Arts and William Leffingwell, professor of painting and design at Yale University, New Haven, Conn., where he makes his home. Consult Caffin, C. H., 'The Art of Sergeant Kendall' (in *Harper's Monthly Magazine*, Vol. CXVII, p. 568, New York 1908); Mather, F. J., jr. 'Kendall Painter of Children' (in *Arts and Decoration*, Vol. I, p. 15, New York 1910).

KENDALLVILLE, a city situated on the Lake Shore and Michigan Southern and Grand Rapids and Indiana railways, about 25 miles north of Fort Wayne, in Noble County, Ind. It is quite a manufacturing town, producing flour, lumber, refrigerators, iron products, pumps, heaters, tiles, bricks and numerous novelties. Pop. 5,000.

KENDRICK, Asahel Clark, American Baptist clergyman and scholar: b. Poultney, Vt., 7 Dec. 1809; d. Rochester, N. Y., 21 Oct. 1895. He was graduated from Hamilton College, Clinton, N. Y., in 1831, and was professor of Greek at Madison (now Colgate) University, Hamilton, N. Y., 1831–50; and held a similar post in the University of Rochester from 1850. Besides translations and several textbooks, and revising and editing Olshausen's 'Old Testament Commentary' and Meyer's 'Commentary on John,' he published 'Our Poetical Favorites' (1880); 'The Moral Conflict of Humanity' (1894); etc. He was one of the American committee of New Testament revisers.

KENDRICK, John, American navigator: b. Boston, about 1745; d. Hawaii, 1800. During the Revolution he sailed a privateer, and in 1787, while in command of the *Columbia* and the *Washington,* explored the northwestern coast of America and various Pacific islands. In 1791 he voyaged to the South Seas, and established the Chinese trade in sandalwood, which for a long time he successfully carried on. He was among the earliest American sailors to attempt voyages for discovery.

KENEALY, kĕ-nē'lĭ, **Edward Vaughan Hyde,** Irish poet, writer and barrister: b. Cork, 1819; d. 1880. He became somewhat noted for his prominent connection with the defense of Orton, the claimant in the Tichborne Case, and of the two Fenians, Casey and Burke (1867). His conduct in both cases was considered so unprofessional that he was disbenched, later on by Grays Inn and expelled from the Oxford circuit. Among his publications are 'The Tichborne Case'; 'Brallaghan' (1845); 'Goethe, A New Pantomime' (1850); 'Poems' (1864); 'Enoch, the Second Messenger of God' (1872); Additional poems (1875–79).

KENEH, GENEH, or **KENÂ,** kĕn'ĕ, capital of the Egyptian province of the same name. It is situated on the Nile about 35 miles north of Thebes and is a place of about 30,000, frequented by pilgrims throughout the year from the interior of Africa, and by tourists from down the river and from various parts of Egypt. The Nile steamers have a station at Keneh and the Nile Valley Railroad has a station on the opposite side of the river from the town. Keneh produces sugar and has some native manufactories, among them distinctive pottery.

KENESAW (kĕn-ĕ-sâ) **MOUNTAIN,** a mountain in Georgia 25 miles northwest of Atlanta. It is famous as the scene of a battle in the Civil War between the Union troops under Sherman and the Confederates under Johnston.

KENESAW MOUNTAIN Battle of. On the night of 18 June 1864, Gen. J. E. Johnston fell back before General Sherman's persistent advance and took a new line with Kenesaw Mountain as its salient, his right wing thrown back so as to cover Marietta, and his left covering the railroad back to the Chattahoochee. Sherman worked to the right, threatening the railroad, and was attacked by Hood's corps at Kolb's Farm (q.v.), 22 June. After much study of the ground, Sherman concluded that he had no alternative but to assault Johnston's line or turn his position. Either course had its difficulties and dangers, but as the enemy and his own

officers had settled down to the conviction that he would not assault fortified lines, but would execute flanking movements only, he considered that a successful assault would have a good moral effect and show that he could move against an enemy behind breastworks; so he resolved to attack the left centre of Johnston's position, and orders were given on the 24th that on the 27th McPherson should assault near Little Kenesaw and that Thomas should assault about a mile further south. Kenesaw was strongly intrenched and held by Loring's and Hardee's corps, Loring on the right, opposite McPherson, Hardee, on the left, opposite Thomas. About 9 A.M. of the 27th the troops moved to the assault, and all along the lines for 10 miles a furious fire of artillery and musketry was kept up. A part of Logan's Fifteenth corps, formed in two lines, fought its way up the slope of Little Kenesaw, carried the Confederate skirmish-pits, and tried to go further, but was checked by the rough nature of the ground and the fire of artillery and musketry delivered at short range from behind breastworks. Logan's assault failed, with a loss of 600 men, and his troops were withdrawn to the captured skirmish-pits. About a mile to the right Thomas assaulted with Newton's and Davis' divisions. The troops charged up the face of the mountain, drove in the skirmish line and reached the main works, but were unable to carrry them under the heavy fire of canister and musketry at short range; after heroic effort and the loss of Gens. C. G. Harker and Daniel McCook, commanding brigades, and 1,580 killed, wounded and missing, fell back and intrenched 75 yards from the enemy's works. The assault was over by 11.30 A.M., and was a failure. It was the most serious reverse sustained by Sherman in the campaign. The entire Union loss was nearly 2,500; Johnston admits a Confederate loss of 808 killed and wounded. Consult 'Official Records' (Vol. XXXVIII); Cox, 'Atlanta'; Van Horne, 'History of the Army of the Cumberland' (Vol. II); Sherman, 'Personal Memoirs' (Vol. II); Johnston, 'Narrative'; The Century Company's 'Battles and Leaders of the Civil War' (Vol. IV).

KENIA, kā'nę-ā, **Mount**, an isolated extinct volcano situated in British East Africa, a few miles south of the equator. Its summit is covered with perpetual snow, and for this reason it is known as Doenyo Ebor or White Mountain. Its height is from 18,000 to 19,000 feet. It was discovered by Krapf in 1849, and its summit was first reached (by Kolb) in 1895.

KENILWORTH, England, a town in Warwickshire, near Warwick, noted as the seat of the famous Kenilworth Castle, the scene of Scott's novel of the same name. It has figured prominently in the history of northern England; and the castle was once the scene of the 19 days' entertainment given to Queen Elizabeth by the Earl of Leicester in 1575. Pop. about 6,000. Consult Beck, 'Kenilworth Castle' (1878).

KENILWORTH. Sir Walter Scott's 'Kenilworth,' published 1821, is a historical romance of the time of Elizabeth, involving the relations between the queen and the Earl of Leicester. Leicester is represented as having contracted a secret marriage with Amy Robsart and as being torn between the two motives of love for his beautiful bride and a consuming ambition to rise superior to all his rivals in the royal favor. It is for fear of his jealous sovereign's displeasure that he has concealed his marriage and hidden his wife in Cumnor Hall. At the opening of the story Tressilian, her former lover, discovers her whereabouts and attempts to get her to return to her father's house. He is opposed by the machinations of Richard Varney, a retainer of Leicester's. Tressilian appeals to the queen to restore the lady to her parents. Discovery is imminent, but Varney temporarily saves the situation by claiming that she is his wife. Elizabeth commands that Amy be brought before her at her approaching visit to Lord Leicester's castle of Kenilworth. Varney, after trying in vain to induce her to pose as his wife, gives her a drug intended to produce an illness which will make her removal impossible, but, fortified with an antidote administered by a servant of Tressilian's, she escapes from Cumnor Hall and journeys to Kenilworth seeking her husband. During the revels at the castle the queen inflames Lord Leicester's ambitions by letting him see that he may even aspire to her hand. Varney convinces him that Amy has been unfaithful and he gives orders for her death. Later, learning that Varney has deceived him, Leicester confesses the truth to Elizabeth in a paroxysm of remorse and is subjected to an outburst of the royal anger. The messengers which he has sent to Cumnor Hall, whither Amy has been carried, arrive too late, and the unfortunate countess is killed by falling through a trap door laid at the entrance of her chamber by the hand of Varney.

In no novel of Scott's is the historical setting elaborated with more care than in 'Kenilworth.' While indifferent to literal accuracy Scott has brilliantly rendered the atmosphere of the time by a multitude of characteristic details drawn from his wide reading of Elizabethan literature. The revels at Kenilworth, for example, are elaborately described after the contemporary account of Laneham. The delineation of Elizabeth is a fine specimen of Scott's characteristic art of reading romance and human nature into the outlines afforded by historical record. The Amy Robsart story is based on rumors and traditions current in Leicester's time and recorded in contemporary documents, but Scott has combined the actual circumstances of more than one of Leicester's marriages and has also drawn heavily on his imagination. For references, consult article *Ivanhoe*. The facts of Leicester's marriage to Amy Robsart are given in the article on Leicester in the 'Dictionary of National Biography.'

JAMES H. HANFORD.

KENITES. The name of a tribe which inhabited the rocky desert region between southern Palestine and the mountains adjoining Sinai. At the time of the exodus of Israel they pastured their flocks around Mount Horeb and Sinai. Jethro or Hobab the father-in-law of Moses was a Kenite. He is also called a Midianite. It may be that the names are interchangeable or that the Kenites and Midianites were closely related. A third conjecture is that the Kenites were the older family of Midianites, the later family descending from

Abraham and Keturah. Because of their great kindness to the Children of Israel on their march from Egypt, they were highly esteemed. When Saul attacked the Amalakites, he warned the Kenites to separate from them. In the time of David they still held their possessions in the south of Judah. In the time of Jehorakim, the small number left from the Assyrian onrush over the land took refuge in Jerusalem. They were a gypsy-like people. It is thought by A. H. Sayce and some other scholars that they were blacksmiths and went from place to place pursuing their vocation. This opinion is largely based, however, on the supposed meaning of the Hebrew root from which their name is derived which is "to work in iron."

KENIZZITES. A tribe descended from Kenaz, the grandson of Esau or from Caleb who is called a Kenizzite (1 Chr. iv, 15). He may have been the grandfather of Caleb (Judges i, 13). The Israelites and Edomites had many names in common. The tribe was located somewhere in the neighborhood of Mount Seir. They seem as Bochart suggests to have become almost entirely extinct between the time of Abraham and Joshua.

KENMARE, Mary Frances Cusack, Nun of: b. Dublin, Ireland, 1820; d. 1899. She was educated in England in the Episcopal Church. Returning to Ireland she became a convert to Catholicism. She conducted the convent of "Poor Clares" which she herself had established at Kenmare (1861–84). In 1884 she founded, with papal sanction, the order of the Sisters of Peace, a branch of which order was founded by her in Jersey City, N. J., the following year. Among her published works are 'Manual of Irish History' (1870); a biography of O'Connell (1872); 'Woman's Work in Modern Society' (1874); 'The Book of the Blessed Ones,' 'The Trias Thaumaturga' (1877). In addition to these she wrote the lives of many saints, devotional works and articles on Irish Shrines. Consult 'The Nun of Kenmare, An Autobiography' (Boston 1888).

KENNAN, George, American traveler, author and lecturer: b. Norwalk, Ohio, 16 Feb. 1845. He received a secondary education, became a telegraph operator, in 1865 went to northeastern Siberia as an explorer and telegraph engineer, and in 1866–68 superintended the construction of the middle division of the Russo-American telegraph line. In 1870–71 he explored the mountain region of eastern Caucasus and Daghestan, upon his return to America was active as lecturer and journalist, and in 1877–85 was night manager of the Associated Press at Washington, D. C. In 1885–86, with G. A. Frost, an artist, he accomplished a journey of 15,000 miles through Russia and Siberia in investigation of the Russian exile system. He visited all the mines and prisons between the Ural Mountains and the headwaters of the Amur, and published an account of his observations in 'Siberia and the Exile System' (1891), first printed in the *Century Magazine* (1889–90). From 1886 he lectured in Great Britain and the United States on his Siberian experiences. In 1898, during the Spanish-American war, he visited Cuba with the Red Cross Society and as special commissioner of the *Outlook* of New York, to which he contributed valuable articles.

In 1901 he went to Russia to visit Count Tolstoy and make a further study of Russian conditions. He was arrested in Saint Petersburg, by order of the Minister of the Interior, and sent out of the empire under guard as a "politically untrustworthy" person. In 1902 in company with American scientists he explored Mount Pelée, Martinique, and the scene of the Saint Pierre disaster. In 1904, upon the outbreak of the Russo-Japanese war, he went to the Far East as correspondent of the *Outlook;* reported the siege of Port Arthur, which he witnessed from the Japanese side; and spent nearly two years in travel through Japan, China, Manchuria and Korea. In 1906–07 he investigated for *McClure's Magazine* municipal corruption in San Francisco. In 1908 he went to England to translate from the original Russian manuscript General Kuropatkin's 'History of the Japanese War.' In addition to the two volumes on the Siberian exile system noted above he is the author of 'Campaigning in Cuba' (1899); 'The Tragedy of Pelee' (1902); 'Folk Tales of Napoleon' (1902); 'Tent Life in Siberia' (revised and enlarged edition 1910); 'A Russian Comedy of Errors' (1915) and 'The Chicago and Alton Case' (1915). Since 1912 he has been on the staff of the *Outlook.*

KENNEBEC (kĕn-ę bĕk) **RIVER,** a river in Maine, next to the Penobscot the most important in the State. Its principal source is Moosehead Lake, on the boundary line between Somerset and Piscataquis counties. After a course of 20 miles it receives Dead River from the right. It enters the Atlantic in Sagadahoc County through Sheepscott Bay, an irregular indentation of the coast studded with many islands. The largest tributary of the Kennebec is the Androscoggin, which joins it 18 miles from the ocean at Merrymeeting Bay. The outlets of a number of small ponds, and Sebasticook and Sandy rivers, also flow into it. The most important towns on its banks are Bath, Richmond, Gardiner, Hallowell, Augusta and Waterville. It has falls at Waterville and at three points above, which afford excellent motive power. Its whole length is about 150 miles, in which it has a descent of 1,000 feet. The influence of the tide extends to Augusta, 42 miles from the sea. A dam with locks was constructed at Augusta for the purpose of improving the navigation above that point, and increasing the water power. The structure is 584 feet long and 15 feet above ordinary high water mark, and cost $300,000. It forms a pond 16½ miles in extent, with an average depth of 16 feet. The river is closed by ice at Hallowell from the middle of December to about 1 April; below Bath it is open at all seasons except during winters of unusual severity.

KENNEBUNK, kĕn-ę-bŭnk', Me., town in York County, on the Kennebunk and Mousan rivers and the Boston and Maine Railroad, west division, 24 miles southwest of Portland. The ample water power here is utilized for various manufacturing industries, among the articles produced being auto top fabrics and straw mattings, leatheroid, sample-cases, shoe-stiffenings, fibre-board and lumber. The town has a free circulating library containing several thousand volumes. It is one of the old

towns of Maine, its settlement dating from about 1650. Until 1820, the year in which Maine became a separate State, Kennebunk was a part of Wells. Pop. 3,500.

KENNEBUNKPORT, Me., town in York County, 25 miles southwest of Portland, on the Atlantic Ocean, at the mouth of the Kennebunk River, and on the Boston and Maine Railroad. It is situated on a good harbor, has an excellent beach, fine boating facilities on the river, and is a favorite summer resort with superior hotel and boarding-house accommodations. Besides Talbot's Library, the town has public and circulating libraries. Its industries include the manufacture of lumber and the building of boats and canoes. The town was settled in 1629, and incorporated as Cape Porpoise in 1653. Having been nearly destroyed by Indians in 1703, it was reincorporated in 1717 as Arundel, and in 1821 took its present name. The population is about 2,200.

KENNEDY, Sir Alexander (William Blackie), English educator and engineer: b. Stepney, 1847. Graduated from Royal College of Mines he became a marine engineer and established a reputation for inventiveness. Becoming professor of engineering at University College, London, he carried on his experiments there and established the first engineering laboratory. He did special and important work in devising means of testing machines of various kinds and he invented a recorder for testing the strength of materials. He has designed lighting and power plants in Edinburgh, Manchester, Loch Leven, Calcutta and Japan. He has also acted extensively in the capacity of consulting engineer and has been chief engineer to the Westminster Electric, Central Electric and Saint James and Pall Mall Electric Supply Companies, member of the Naval Boiler Committee, president of the Admiralty Committee on Machinery Design, associate member of the Ordnance Committee; member of Committee on Wireless Telegraphy; consulting electrical engineer to the London and Northwestern and London and Southwestern railways and to the London County Council Tramways; member of the Advisory Committee of the Ministry of Munitions, of the Munitions Inventions Panel, and vice-chairman of the Anti-Air Craft Equipment Committee. Among his published works are 'The Mechanics of Machinery' (1886); 'Moore's Alps in 1864' (1902), and a translation of Reuleaux's 'Kinematik.'

KENNEDY, Archibald R. S., Scottish educator and Semitic scholar: b. White Hills, Banffshire, 1859. He was educated at the universities Aberdeen, Glasgow, Göttingen and Berlin (1875–85). In the latter year he became Fellow of Glasgow University (1885–87), going to Aberdeen University three years later as professor Semitic languages (1887–94); and in 1894 to University of Edinburgh as professor in the same capacity (1894–). Among his published works are a series of grammars in the Porta Linguarum Orientalium Series, including Hebrew (1885); Seriac (1889); Assyrian (1890), and Arabic (1895); 'Exodus' (in Temple Bible, 1901); 'Joshua and Judges' (1902); 'Samuel' (1905); 'Leviticus and Numbers' (in Century Bible, 1910). He has also contributed extensively to Hastings 'Dictionary of the Bible'; 'Encyclopedia Biblica,' and the 'Encyclopedia Britannica.'

KENNEDY, Benjamin Hall, English educator and classical scholar: b. Birmingham, 1804; d. 1889. Graduated from Cambridge in 1827 he became Fellow and lecturer in classics at Saint John's College in his alma mater; assistant master at Harrow, and head master of Shrewsbury School (1836–66). In the latter year he became regius professor of Greek at Cambridge and canon of Eli the following year. In 1870 he became a member of the University Council, and also of the Committee on the Revision of the New Testament. He edited popular classical textbooks; made translations from Greek and Hebrew into English and wrote poetry in Latin, Greek and English, a volume of which was published in 1882 under the title of 'Between Whiles.' Consult Sandys, 'A History of Classical Scholarship' (Vol. III, Cambridge 1908).

KENNEDY, Charles Rann, Anglo-American dramatist: b. Derby, England. 14 Feb. 1871. He began life as an office boy, largely educated himself and early began lecturing and writing. He later became an actor and press agent and theatrical business manager. This led to the production of dramas for the stage with which he combined the writing of short stories, critical articles and poems. Among his dramas are 'The Servant in the House' (1908); 'The Winter Feast' (1908); 'The Terrible Meek' (1911); 'The Necessary Evil' (1913); 'The Idol-Breaker' (1914); 'The Rib of the Man' (1916); 'The Army with Banners' (1917). In the composition of these dramas, all of which deal with problems of society and are of a serious, reforming tendency he has had the advice of his wife, the actress, Edith Wynne Matthison, whom he married in 1898.

KENNEDY, Grace, Scottish novelist: b. Pinmore, Ayrshire, 1782; d. 1825. Her novels, which are of a decidedly religious caste, were very popular in her day, though now when the age has become more liberal, they have lost most of their interest and are very little read. Her works which have been translated in full into German, and in part, into several other languages, show considerable talent and depict the religious spirit of her age in Scotland very well. They will, therefore, be of a secondary interest at least, to students of the religious tendencies of the first quarter of the 19th century. Her most popular story, 'Father Clement' (1823) is strongly anti-Roman Catholic, and for this reason and on account of the vividness of the characters and situations, became immensely popular and was translated into most of the languages of Europe. Among her other novels are 'Anna Ross'; 'Dunallan'; 'Jessy Allan,' and 'Decision.' The best edition of her works is that published in Edinburgh in 1827.

KENNEDY, Sir James Shaw, British soldier and military writer: b. Straiton parish, Ayrshire, 1788; d. 1865. His family name was Shaw and the Kennedy was added afterward. He became a general in 1863 after having seen much military service abroad in the Wellington Peninsular Campaigns and in other similar service. His 'Notes on Waterloo' were published

in 1865. He also left an autobiography; 'A Plan for the Defense of Canada'; and 'Notes on the Defense of Great Britain and Ireland' (1859), the latter of which has been frequently reprinted.

KENNEDY, John, Scottish religious writer: b. Aberfeldy, Perthshire, 1813; d. 1900. Educated at Aberdeen, Glasgow and Edinburgh universities he became a Congregational minister stationed in Aberdeen (1836–46). In the latter year he went to London to Stepney Congregation (1846–82). There he became professor of apologetics at New College (1872–76) and chairman of the council of that institution (1884–95) and was editor of *The Christian Witness* (1866–73) and *The Evangelical Magazine* (1887–90). Among his published works are 'The Divine Life' (1858); 'A Handbook of Christian Evidence' (1880); 'The Gospels; their Age and Authorship' (1884); 'Old Testament Criticism and the Rights of Non-Experts' (1897).

KENNEDY, Sir John, Canadian engineer: b. Spencerville, Ontario, 26 Sept. 1838. He was educated at McGill University, he became assistant city engineer of Montreal in 1863; division engineer (1871) and chief engineer of the Great Western Railways of Canada (1872–75); chief engineer of the Montreal Harbor Commission (1875–1907) and consulting engineer of same since 1907. Among his important public works are the deepening to 27½ feet of the ship canal between Montreal and Quebec and all the improvements made in Montreal harbor for nearly a third of a century. As a member of numerous important engineering committees, among them those on Lachine Canal, Floods at Montreal and Trent Valley Canal System, all of them royal commissions, he has influenced strongly many great public undertakings in Canada.

KENNEDY, John Pendleton, American novelist: b. Baltimore, Md., 25 Oct. 1795; d. Newport, R. I., 18 Aug. 1870. He was graduated at Baltimore College in 1812, and in 1814 served as a volunteer in the ranks, taking part in the battles of Bladensburg and North Point. In 1816 he was admitted to the practice of the law, which he followed successfully for 20 years. In 1818 he commenced authorship, by the publication, in connection with his friend Peter Hoffman Cruse, of the 'Red Book,' a serial of light character in prose and verse issued about once a fortnight, and continuing two years. In 1820 he was elected to the Maryland house of delegates, and re-chosen the two next years. In 1832 he published his first novel, 'Swallow Barn, or a Sojourn in the Old Dominion,' descriptive of the plantation life of Virginia. In 1835 appeared 'Horseshoe Robinson, a Tale of the Tory Ascendency,' the most successful of his writings. In 1838 he published 'Rob of the Bowl, a Legend of Saint Inigoes,' relating to the Maryland province in the days of Cecilius Calvert, second Lord Baltimore. Kennedy was a member of Congress 1839–45, and was prominent among the Whig members. In 1849 appeared his 'Life of William Wirt, Attorney-General of the United States,' and in 1852 he became Secretary of the Navy. His works not previously named include 'Annals of Quodlibet' (1840); 'Mr. Ambrose's Letters on the Rebellion' (1865). He was a friend of Thackeray, and wrote or sketched in outline the fourth chapter of the second volume of 'The Virginians.' Consult 'Life' by Tuckerman. See HORSESHOE ROBINSON.

KENNEDY, John Pitt, an Irish author, educator and engineer: b. Donogh, Donegal County, Ireland, 1796; d. 1879. He superintended harbor construction in many parts of the world and built lighthouses, roads and quays. He was sub-inspector of militia in the Ionian Isles (1828–31). After a long absence from the army he returned to it in 1849, serving as secretary to Sir Charles Napier whom he accompanied to India. There Kennedy superintended the construction of the military road from Kalka, through Simla and Kunawur to Tibet. John Pitt Kennedy, notwithstanding the importance of his public engineering works, is best remembered on account of his efforts to settle, in a sensible way, the Irish question. He returned to Ireland in 1831; and he was at once struck with the lamentable condition of the people and filled with a desire to remedy it. He realized that any permanent improvement in the Irish situation must be proceeded by a betterment of agricultural conditions. He seems to have got nearer the heart of the Irish people than any previous reformer and to have realized that the British methods of dealing with the people had been largely faulty if not vicious. He became convinced that force would never conquer Ireland though it might hold her in subjection indefinitely. In 1835 he published a book which embraced his ideas on Ireland, and which bore the curious, though very suggestive title 'Instruct; Employ; Don't Hang Them: or Ireland Tranquilized without Soldiers and Enriched without English Capital.' As inspector general of Irish Education, for a time; secretary of the Devon Commission (1843); and the Famine Relief Committee (1845) he labored to improve agricultural and social conditions and to advance public instruction in Ireland. To this end he wrote several works, all dealing with the problems he found in Ireland and suggesting solutions. He also wrote technical engineering works and was publisher and editor of the *British Home and Colonial Empire*.

KENNEDY, John Stewart, Scottish-American philanthropist: b. near Glasgow, Scotland, 1830; d. 1909. At the age of 24 he came to New York as the representative of a London iron firm. There he entered the firm of Morris K. Jesup in which he remained until 1867. On his retirement he began the reorganization of concerns on trouble through mismanagement or other causes; and was receiver for numerous concerns, among them The New Jersey Central Railroad; and in these enterprises he eventually made a large fortune; the greater part of which he expended in charities and in the encouragement of education. Of the $30,000,000 which he is credited with having disposed of in this way he gave by will to Columbia University, the New York Public Library, the Metropolitan Museum of Art, the Presbyterian Board of Home Missions, the Presbyterian Board of Foreign Missions, the Presbyterian Church Erection Fund and the Presbyterian Hospital, $2,500,000, or a total of $17,500,000. His will also provided for many

gifts to colleges ranging from $1,500,000 to $50,000.

KENNEDY, Joseph Camp Griffith, American statistician: b. Meadville, Pa., 1813; d. 1887. He practised law for a time, edited country newspapers, and finally, in 1849, he assumed charge of the reorganization of the United States Census Bureau; and 10 years later became head of the census. He was largely instrumental in the holding of the Congress of Statisticians held in Brussels in 1853. Later on he became examiner of National Banks. To him the United States owes much of her early organization of statistical reports of all kinds.

KENNEDY, Thomas Francis, Scotch reformer: b. Greenan, 1788; d. 1879. Graduated in law from Edinburgh University he went into politics and became a member of the Parliament in 1818. He became greatly interested in political reforms and in these matters he saw more clearly than most of his fellow members of Parliament. He obtained numerous rights for prisoners, among them that of peremptory challenge under a ballot method for the selection of jurors. He was largely instrumental in securing the extension of the franchise, the abolition of religious disabilities, the extinction of the Scottish Court of the Exchequer and the lowering of the duties on corn (that is grain). His efforts in this direction and in others were recognized by his successive appointment as clerk of ordinance (1832), Junior Lord of the Treasury, paymaster of civil service in Ireland (1837); and Commissioner of Woods and Forests (1850–54).

KENNEDY, William, Irish poet and prose writer: b. Dublin, 1799; d. Paris, 1871. Educated at Belfast College, he drifted into literature, working on the *Paisley Magazine,* Scotland. Following this he followed literature in London until 1838 when he accompanied Lord Durham, as secretary to Canada, going to Texas in 1841 and becoming British consul at Galveston (1842–49). In the latter year he was retired on a pension which allowed him to devote his time to literary work. He returned to London and finally went to reside in Paris. Among his published works are 'Fitful Fancies' (1827); 'The Arrow and the Rose and Other Poems' (1830, both volumes of lyrical poetry for the most part); 'The Siege of Antwerp' (drama); 'The Rise, Progress and Prospects of the Republic of Texas' (2 vols., 1841).

KENNEDY, William Sloane, American author: b. Breckville, Ohio, 1850. Educated in Yale and Harvard he joined the staff of the *Boston Transcript,* and later devoted considerable time to literature, doing magazine work, criticisms, translation from French and Italian and published original works. Among the latter are 'Henry Wadsworth Longfellow' (1882); 'John Greenleaf Whittier' (1882); 'Oliver Wendell Holmes' (1883); 'Wonders and Curiosities of the Railway' (1884 and 1906); 'John G. Whittier, the Poet of Freedom' (1892); 'Reminiscences of Walt Whitman' (1896); 'In Portia's Gardens' (1897); 'Walt Whitman's Diary in Canada' (1904).

KENNELLY, Arthur Edwin, Anglo-American engineer: b. Bombay, India, 17 Dec. 1861. Educated at University of London. After extensive experience as an electric engineer in England, he came to the United States in 1887 as electrical assistant to Thomas A. Edison. Seven years later he established a business for himself in Philadelphia as consulting electrical engineer (1894–1901). In 1902 he was appointed professor of electrical engineering at Harvard University, a position he still holds. He is also professor of electrical engineering at the Massachusetts Institute of Technology. Among the important public works which he has undertaken was the laying, for the Vera Cruz-Frontera-Campeche Cables for the Mexican government in 1903. Among his published works are 'Notes for Electrical Students' (a collaboration with Wilkinson); 'Theoretical Elements of Electro-Dynamic Machinery' (1893); 'Electrical Engineering Leaflets' (in collaboration with Edwin J. Houston 1897); 'Electro Dynamic Machinery' (1899); 'Electricity Made Easy' (1899); 'The Interpretation of Mathematical Formulæ' (1899); 'Wireless Telegraphy' (1907); 'The Application of Hyperbolic Functions to Electrical Engineering Problems' (1911); 'Tables and Atlas of Complex Hyperbolic Functions' (1914); 'Artificial Electric Lines' (1917).

KENNERLEY, Mitchell, American publisher: b. Burslem, England, 14 Aug. 1878. He came to the United States at the age of 18 as representative of John Lane publishing house, London, with headquarters in New York City (1896–1900); after which he became business manager of the *Smart Set* (1900–01); founder and editor-proprietor of *The Reader Magazine* (1901–04); and publisher (1905—). In this latter capacity he published *The Forum* (1910–16); *The Papyrus* (1910–12).

KENNET RIVER, a tributary of the Thames, in England. It rises in Wiltshire, flowing east through Berkshire, emptying into the Thames at Reading, after a course of 46 miles. It is a part of the waterway connecting the North Sea with Saint George's Channel.

KENNETH I (ruled 832–860), a Scottish king belonging to the MacAlpine family. At first his influence extended over a restricted territory in Galloway; but this he gradually extended by successful military expeditions which resulted in the expulsion of the Danes (841) and the union of the Scottish and Pictish principalities. He made Dunkeld the ecclesiastical capital of his enlarged domains; and to this new capital he removed the relics of Saint Columba. This made the city the centre of increased ecclesiastical activity which served as an inspiration to the Christians to maintain a desperate struggle against expiring paganism. Kenneth, among his other warlike activities, made six expeditions against Lothian, into which he penetrated on each occasion. Consult Lang, Andrew, 'History of Scotland,' or any other good history of Scotland.

KENNETT, Robert Hatch, English educator, scholar and writer: b. Saint Lawrence, Ramsgate, 1864. Educated at Cambridge, he served in that institution as chaplain, lecturer in Hebrew and Syriac (1887–93); and lecturer in Aramaic (1893–1903), becoming, on the lat-

ter date, regius professor of Hebrew; canon of Eli (1905); Schweich lecturer (1900), and Bishop of Manchester (1913). Among his publications are 'The Hebrew Tenses' (1901); 'In Our Tongues' (1907); 'The Servant of the Lord' (1911); 'The Composition of the Book of Isaiah in the Light of History and Archæology.' He has also contributed extensively to the *Journal of Theological Studies*; the 'Encyclopædia Americana'; 'Hastings Encyclopædia of Religion and Ethics,' the *Hibbert Journal* and other publications of a like nature.

KENNETT, White, English Episcopal prelate and writer: b. Dover, 10 Aug. 1660; d. Westminster, 19 Dec. 1728. Graduated from Oxford he entered the Church of England where he distinguished himself as a preacher, antiquarian, theologian and historian, and also an account of his strongly-pronounced anti-high church attitude. Rector of Ambrosden (1685); tutor and vice-principal of Edmund Hall, Oxford (1691); Archdeacon of Huntingdon (1701); Dean of Peterborough (1707); Bishop of Peterborough (1718); he made his mark upon the church politics of his day in England. Among his numerous works are 'Parochial Antiquities' (1695, 1818); 'Compleat History of England' (of which only one volume was published anonymously in 1706); 'A Register and Chronicle, Ecclesiastical and Civil, for the Restoration of King Charles II' (Vol. I, 1728). Many of his historical and other valuable manuscripts, most of which have not yet been published, are in the Lansdowne collection in the British Museum. His life was written by Newton (London 1730).

KENNEY, Charles Lamb, English author and journalist, son of the Irish dramatist, James Kenney (q.v.): b. Bellevue (near Paris), 1821; d. 1881. He began active life as a clerk in the London general post office; and while there devoted his spare time to writing for the local press, and he thus gradually drifted into journalism becoming dramatic critic for the London *Times*. In the meantime he studied law and was admitted to the bar in 1856. Among his published works are 'The Gates of the East' (in support of the building of the Suez Canal, 1857); 'M. W. Balfe' (1875); 'Balzac's Correspondence' (a translation, 1878), and light verse, and several very good light operas and musical sketches which were popular in their day. Consult Clayden, W. P., 'Rogers and his Contemporaries' (London 1889); Genest, John, 'English Stage' (Vols. VII and VIII, London 1832).

KENNEY, James, British dramatist: b. 1780; d. 1849. Beginning as a bank clerk in London, where his father was manager of «Boodles' Club,» he gave more attention to amateur acting and play writing than to the banking business, which he soon gave up for dramatic writing. His plays were very popular in his day and some of them are still seen upon the stage. He had excellent dramatic talent and the power of character development. Among his numerous plays the most popular and successful are 'Sweethearts and Wives' (1823); 'Turn Him Out' (a musical afterpiece, 1812); 'Love, Law and Physic' (1812); 'The Illustrious Stranger' (1827); 'Masaniello' (1829); 'Sicilian Vespers' (1840). Consult authorities quoted under KENNEY, CHARLES LAMB.

KENNICOTT, Benjamin, English clergyman and scholar: b. Totness in Devonshire, 4 April 1718; d. Oxford, 18 Sept. 1783. When his father died he was quite young but succeeded him as master of a charity school in his home village. Through the kindness of friends he entered Wadham College, Oxford. In his undergraduate days he published two books, the second one 'On the Oblations of Cain and Abel' (2d ed., 1747) won for him his degree before the statute time had expired. Soon after he was elected Fellow of Exeter College. His fame as a scholar rests on a great undertaking which he began in 1753. It was no less a task than the collation of all the Hebrew manuscripts to be found in the libraries of England and on the Continent so that a more correct Hebrew text of the Old Testament might be ascertained. Several persons were employed collating manuscripts for him. Professor Bruns of the University of Helmstadt collated manuscripts in Germany, Switzerland and Italy. After 16 years of the most intense labor, the first volume of his Hebrew Bible appeared. The second appeared four years later. The variations of the text included collations from Hebrew and Samaritan manuscripts, the Greek testament and from the former editions of the printed text. Dr. Kennicott was librarian of Radcliffe Library from 1767 until his death, he was also canon of Christ Church at the same time. His works include, in addition to pamphlets and sermons, 'The State of the Printed Hebrew Text of the Old Testament' (2 vols., 1753, 1759); 'Critici Sacri: or Short Introduction to Hebrew Criticism' (1774); 'Ten Annual Accounts of the Collation of Hebrew Manuscripts of the Old Testament, 1760-69' (1770); 'Vetus Testamentum Hebraicum Cum variis Lectionibus' (2 vols., 1776, 1780); 'Dissertatio Generalis in Vetus Testamentum Hebraicum' (1780); 'Epistola ad celeberrimum professorem Joannem Davidem Michaelis, de censura primi tomi Bibliorum Hebraicum Nuper editi' (1777); 'Editionis Veteris Testamenti Hebraici cum variis lectionibus brevis defensio, contra Ephemeridum, Goettingensium Criminationes' (1782); 'Remarks on Selected Passages in the Old Testament, to which are added eight Sermons' (1787).

KENNICOTT, or **KATALLA,** a seaport on Controller Bay, Alaska. It is of importance as the terminus of the Copper River and Northwestern Railway, which, with its other railway connections, connects Cordova, Kennicott and the Nizina valley generally. It thus forms the outlet for the Kennicott-Bonanza Copper Company and the other mining companies of the region through which it passes or which it taps, including the Bhering coal fields.

KENNY, SIR Edward, Canadian statesman: b. County Kerry, Ireland, 1800; d. Halifax, N. S., 16 May 1891. He removed to Halifax in 1824, where he engaged in business, and was mayor at one time. He was member for 26 years of the legislative council of Nova Scotia, during 11 of which he was president; served as receiver-general of Canada (1867-69); president of the privy council (1869-70); and senator (1867-76). He was knighted in 1870.

KENNY, Sir **Thomas Kelly-,** British soldier: b. Kilrush, County Clare, Ireland, 1840; d. 1914. He took part in the war in China in 1867, and after continuous military service he took part in the South African War as major general and commander of the sixth division. Promoted for his services there to the rank of lieutenant general; he became, at the war office, adjutant general to the forces (1901–04). Knighted in 1902, he was commissioned general in 1905.

KENO, or **KINO,** kē'nō, a variation of lotto (q.v.). In its modern form it is used for gambling purposes. For this purpose a hollow globe and 99 balls, each numbered consecutively from one upwards, are used, the balls are well shaken while in the globe, from which they are allowed to issue one by one upon which each number is called by the roller as it appears. The game, which, in its gambling form, is said to be of American origin, is purely one of chance. The players purchase cards upon each of which are printed four rows of five figures each. As the balls make their appearance, they are checked up by the holder of the cards, and the first one getting five numbers in a row on his card calls out "Keno" indicating that he is the winner and, as such, entitled to the stakes of all the players minus the percentage allowed to the "bank". The hollow globe in which the numbered balls are placed is called a "goose". It is so placed that it can be revolved rapidly on its own axis, thus securing a proper mixing of the balls.

KENORA, formerly **Rat Portage,** Canada, town and port of entry, Ontario, at the outlet of the Lake of the Woods and on the Canadian Pacific Railway, 133 miles by rail east of Winnipeg. It is the chief town of the Rainy River district and the distributing centre for the neighboring gold mines. The Winnipeg River with a fall of 16 feet from the lake, furnishes inexhaustible water power for sawmills, flour-mills and other industrial establishments. The neighboring lake fisheries, especially of sturgeon, are valuable. Telephone, light, water and sewerage systems are municipally owned. The town was within the disputed boundaries of Manitoba and Ontario, and in July 1883 serious riots occurred, when policemen belonging to the contestant provinces fought with and arrested each other. Pop. 6,158.

KENOSHA, kē-nō'shą, Wis., city, county-seat of Kenosha County; on Lake Michigan and on the Chicago and Northwestern and the Pere Marquette railroads; about 35 miles south of Milwaukee. It has steamer communication with many of the ports on the Great Lakes. It is a trade centre for quite an extent of country. Its chief manufactures are leather, typewriters, furniture, wagons, lamps, machinery, carriage and automobile lamps, automobiles, springs, hosiery, underwear, iron bedsteads and flour. It is the seat of Kemper Hall School (P. E.). The Simmons Memorial Library contains about 6,000 volumes. The city owns and operates the waterworks; the water is obtained from the lake and artesian wells. Kenosha was incorporated in 1841 and chartered as a city in 1850. Pop. 26,062.

KENOSIS, ke-nō'sĭs (Greek, an emptying, a depletion), the self-renunciation and self-limitation of the Son of God manifested in the incarnation. Even in very early Christian times there were at least three distinct views held as to the relation of the God-Christ to the man-Christ. These views were influenced by the Jewish conception of a traditional Christ, the Egyptian doctrine of the incarnation of Osiris, son of the great sun god, Ra, and the speculations of the Romans, Greeks and Persians as to the nature of their own gods which strangely mingled human with divine attributes. From Egypt, Rome and the Eastern Empire came views of the *Kenosis,* influenced by local traditions and the early training and education of the contestants, in the days when Christian theology and dogma were in the making. The mystery of the self-emptying of the divine manner of being that took place at the incarnation of the second person of the trinity; the laying aside of the eternal and the assumption of a time form of existence formed an ever-fruitful subject of speculation in an age long given to speculation as to the manner of being of things divine. Christianity introduced a new feature in the speculation, that of the self-abasement of the God-Christ, a feature upon which the Christians laid great stress, no doubt owing to the strong character of Paul and some of the earlier fathers who linked the historical Christ firmly with the Jewish traditional Christ. This linking of the two created a wide field for speculation as the subject was viewed from the Jewish or the Christian point of view or it was influenced by the traditions and philosophical speculations of the scholars of the Eastern and the Western Empires and the mythological conceptions of the new converts to Christianity in Egypt and from among the Germanic and other races of Europe and southwestern Asia. The relation of the incarnate God to his own self-abasement in the assumption of humanity and the occultation of his own divinity; the restrictions, pains and penalties to which he submitted during his earthly life; and the exhibition of his divine power on noted occasions like the resurrection, ascension and transfiguration, introduced a new element into the religious speculation of the early centuries of Christianity, an element that proved very attractive to the mystical, speculative spirit of the age with which Paul seems to have been well acquainted. Speculation concerned itself as to what extent the God-Christ laid aside his divine form of existence, dignity and glory on becoming incarnate; and as to how much of the divine essence he divested himself of in the *kenosis.* Some speculative theologians maintained that the *kenosis* consisted in the simple laying aside the attributes of divine glory and the divine form of existence. Others held that with these went the divine power which could not be a co-dweller with incarnation; and that Christ's miracles were performed not by power that he had retained from his divine existence, but through the power that came to him from God the father. Other theologians went the extreme limit and upheld the doctrine that, at the incarnation, the Son of God completely emptied himself of the divine essence, thus altogether suspending the union and the divine functioning of the trinity during his incarnate existence

upon earth. Between these three more or less distinct views of the relation of Christ to his incarnation, there were various different shades of opinion, most of them influenced by the speculative thought of the age and the popular and the priestly doctrine of a paganism still vigorous in many strongholds. The Eastern and Western churches held different views of the *Kenosis;* and the opinions of the early church fathers did not agree with those who followed Augustine whose personality, so thoroughly impressed on his contemporaries, was destined to powerfully influence all future Christian thought.

The word *Kenosis,* used by Liebner about 1840, as an appropriate term to designate the field of discussion indicated above, is really the modern application of an old term which, if not nominally so extensively employed, was virtually as widely used. The modern idea of the doctrine of the *kenosis,* which is Protestant, and especially Lutheran, is based on the statement of Paul, who said that Christ "being in the form of God, thought it not robbery to be equal with God, but made himself of no reputation and took upon him the form of a servant" (Phil. ii, 6–8).

Modern Doctrine.—As early as 1832 Ernst Sartorius and Johann König each separately applied the expression of *Kenosis,* almost in the sense of a doctrine, to the Christ. Little by little the term and what it stood for gained ground, especially among Lutheran theologists until in 1845 it had assumed the form of a doctrine widely accepted in Protestant Germany. The position taken by those who adhered to the modern doctrine of *Kenosis* was that there is a perfect oneness in the person of Christ; since by his own will and in his divine form he laid aside the fullness of his divine nature in so far as all its external relations were concerned, thus making it possible for him to become fully incarnate, that is human, and capable of human existence and development. The doctrine of *Kenosis,* however, recognizes that Christ retained the use of his divine power for such special cases as were necessary for the redemption of his work. Reformed and United theologians followed the Lutheran leaders in their discussions and explanations of *kenosis,* which its defenders claimed was the natural outcome of the previous development of dogma. In this view they are mistaken since early orthodox exegesis was in no sense kenotic, nor were new theories, for a long time, kenotic. The idea that Christ left all his divine power behind him on his incarnation, obtained no hold in Christian theology previous to the 19th century. In fact the tendency of belief was to hold that, even on earth, the glory and the power of Christ were still intact and that a veil had been drawn over them. This veil might be partially drawn, revealing glimpses of the divine power. Even Calvin, the iconoclast in many other respects, seems to have held this view.

The present doctrine of *kenosis,* which seemed, about the middle of the last century, as destined to incorporate itself firmly in Christian dogma, has been steadily losing ground, and the strenuous efforts of its champions have only succeeded in bringing out clearly and definitely the fact that Christian ecclesiastical theology has never admitted or held the views propounded by the modern Kenotic creed.

Bibliography.— Bensow, 'Die Lehre von der Kenose' (Leipzig 1903); Dorner, 'History of the Development of the Doctrine of the Person of Christ' (Edinburgh 1861–63); Frank, 'System der christlichen Gewissheit' (Erlangen 1870–73); Gess, 'Die Lehre von der Person Christi' (Basel 1856); Hall, F. J., 'The Kenotic Theory Considered with Particular Reference to the Anglican Forms' (London 1898); Mackintosh, 'The Doctrine of the Person of Jesus Christ' (New York 1912); Morgan, R. C., 'God's Self-emptied Servant' (1906); Simon, 'Reconciliation by Incarnation' (Edinburgh 1898); Tomasius, 'Christi Person and Werk' (Erlangen 1861).

KENRICK, Francis Patrick, American Roman Catholic bishop: b. Dublin, Ireland, 3 Dec. 1797; d. Baltimore, 6 July 1863. After studying in Rome (1815–21), he was ordained priest in the latter year and sent to this country to take charge of a seminary at Bardstown, Ky. He remained at Bardstown nine years till his appointment as coadjutor bishop of Philadelphia in 1830. Twelve years later he became bishop of Philadelphia and there founded the seminary of Saint Charles Borromeo. In 1851 he was installed archbishop of Baltimore and the next year presided over the first plenary council of American Roman Catholic prelates. He became honorary primate of the United States in 1859. He was prominent as a controversialist and a Biblical scholar, and published 'Dogmatic Theology' (1839–40); 'Moral Theology' (1841–43); a revision of the Douai English Bible, with notes, etc.

KENRICK, Peter Richard, American Roman Catholic archbishop: b. Dublin, Ireland, 17 Aug. 1806; d. Saint Louis, Mo., 4 March 1896. After studying at Maynooth he was ordained priest in 1830, and came to the United States in 1833. He was professor of dogmatics in the seminary of the diocese of Philadelphia and subsequently became vicar-general. In 1841 he was appointed coadjutor to Bishop Rosati of Saint Louis, succeeded to that bishopric in 1843, and was created first archbishop of Saint Louis in 1847. He opposed the dogma of papal infallibility but acquiesced in its final decree. He published 'The Holy House of Loretto'; 'Anglican Ordinations'; 'Vaticana,' etc. Consult O'Shea, 'The Two Archbishops Kenrick' (1904).

KENDRICK, William, American horticulturist: b. 1795; d. 1872. He is noted for his introduction of the mulberry tree into the United States and his attempts to establish there the silk industry. It is interesting to note that his pioneer nursery gardens were planted (1790) on the ground where John Eliot first preached to the Indians.

KENSAL-GREEN, a famous London cemetery in which are buried many noted people, among them Thackeray, Leigh Hunt, Sidney Smith, Kemble and Sir Charles Eastlake. The dead in the cemetery, which contains 60 acres, form in themselves a large city, numbering, as they do, over 70,000.

KENSETT, John Frederick, American painter: b. Cheshire, Conn., 22 March 1818; d.

New York, 14 Dec. 1872. His uncle, Alfred Daggett, an engraver, gave him his first lessons in art, but in 1840 he went abroad and for seven years traveled in England, Switzerland and Italy. The fruit of this student-ramble was a large number of sketches and paintings, out of which he exhibited in 1845 in the Royal Academy. The sale of one of his pictures, a view of Windsor Castle, encouraged him to persevere. On returning to America he lived chiefly in New York. His 'View on the Arno' and 'Shrine,' exhibited in New York in 1848, established his reputation in America, and he was elected in 1849 a National academician. His landscapes are more remarkable for sweetness than for strength, but he maintains a uniform standard of merit in all of them. His technique is delicate and refined, especially in his small canvases. He delights in the scenery of the Hudson, and of the sea-coast, and some of his effects are exquisitely charming. Among his landscapes the most interesting are 'Sunset on the Coast' (1858); 'October Afternoon' (1864), both in the Corcoran Gallery, Washington; 'Noon on the Sea-Shore,' which has been engraved by Hunt. Several of his pictures are in the Metropolitan Museum of Art, New York, the finest of them being 'White Mountains,' a masterpiece of its class. He was for some years a member of the national art commission appointed to direct the decoration of the National Capital.

KENSINGTON, England, a metropolitan and parliamentary borough of West London. Area, 2,291 acres. Owing to its salubrious situation, it became a favorite place of residence in the 17th century when William III purchased a house that afterward became the royal palace. Isaac Newton died at Kensington (1727). Queen Victoria was born in Kensington Palace, and at Kensington Palace her succession to the throne was announced to her. The borough is replete with literary associations, among those who have resided here being Addison the essayist, Talleyrand, Thackeray, John Stuart Mill and Green the historian. Holland House was famous as a social centre during the time of the third Lord Holland. Brompton Road Oratory is perhaps the most celebrated of its churches. The South Kensington Museum and the Natural History Museum are the most interesting public buildings. Kensington returns two members to Parliament. Pop. about 172,317. Consult Burt, 'Historical Notices of Kensington' (1871); Faulkner, 'Kensington' (1820); Hunt, Leigh, 'Old Court Suburb' (1885); Loftie, 'Kensington' (1888).

KENSINGTON GARDENS, a celebrated public park in London four miles west of Saint Paul's, and well known for its royal palace. In former times Kensington Palace was a favorite royal residence. King William III, Queen Mary, Queen Anne and George II died here. Kensington Gardens and Hyde Park are much frequented in summer and form a great ornament to the metropolis. They cover about 350 acres, and contain the Albert Memorial. In South Kensington the chief attractions are the South Kensington or Victoria and Albert Museum, the Indian Museum, the Natural History Museum and the Imperial Institute. The scene of 'The Little White Bird,' from which Sir James M. Barrie adapted his delightful play 'Peter Pan' is laid in Kensington Gardens.

KENSINGTON PALACE. See KENSINGTON GARDENS.

KENT, Charles Foster, American Biblical scholar: b. Palmyra, N. Y., 13 Aug. 1867. He was graduated at the universities of Yale (1889) and Berlin (1892), and the following year became an instructor in the University of Chicago. In 1895 he was elected professor of Biblical literature and history at Brown University, a position which he held until 1901. He is at present Woolsey professor of Biblical literature at Yale University. Among his writings are 'Outlines of Hebrew History' (1895); 'The Wise Men of Ancient Israel and Their proverbs' (1895); 'History of the Hebrew People, the United Kingdom' (1896); 'History of the Hebrew People, the Divided Kingdom' (1899); 'Messages of the Earlier Prophets' (1899); 'Messages of the Later Prophets' (1900); 'Israel's Historical and Biographical Narratives' (1905); 'Origin and Permanent Value of the Old Testament' (1906; 1912); 'Israel's Laws and Traditional Precedents' (1907); 'The Heroes and Crises of Early Hebrew History' (1908; 1912); 'The Kings and Prophets of Israel and Judah' (1912); 'The Makers and Teachers of Judaism' (1911); 'Biblical Geography and History' (1911); 'Life and Teachings of Jesus According to the Earliest Records' (1913); 'The Songs, Hymns and Prayers of the Old Testament' (1914); 'Testing of a Nation's Ideals,' with J. W. Jenks (1915).

KENT, Edward Augustus, DUKE OF, English prince: b. 1767; d. 1820. He was son of George III, and elected to be a soldier, in which capacity he gave very efficient service against the French West India Islands and other campaigns. He was one of the most popular of British princes and numerous places were named after him, among them Fort Edward in Martinique (Fort Royal) and Prince Edward Island (formerly Saint John). Made Duke of Kent in 1799, he became commander-in-chief of the British forces in North America in the same year, rising to the rank of field marshal in 1805. His daughter became queen of Great Britain under the title of Victoria.

KENT, Jacob Ford, American general: b. Philadelphia, Pa., 14 Sept. 1835. He was graduated at West Point in 1861, entered the army as 2d lieutenant 6 May 1861, became captain in January 1864, and was brevetted colonel of volunteers in October 1864 for faithful and meritorious services in the field during the campaign before Richmond. After the war he was assistant instructor in tactics at West Point and from 1869 to 1898 was on frontier and garrison duty. At the opening of the war with Spain he was colonel of the 24th infantry. He was made major-general of volunteers 8 July 1898, and served with distinction in Cuba and afterward in the Philippines. He was retired in October 1898, soon after attaining the rank of brigadier-general.

KENT, James, American jurist: b. Philippi, Putnam County, N. Y., 31 July 1763; d. New York, 12 Dec. 1847. Kent was graduated at Yale College in 1781, studied law, was admitted in 1785 as an attorney, and in 1787 as a coun-

sellor and commenced the practice of his profession in Poughkeepsie. He soon became remarkable among his contemporaries for his legal learning and literary attainments. He was elected successively in 1790 and 1792 a member of the legislature for Dutchess County. Kent became an active and leading Federalist, attracting the notice and confidence of Hamilton and Jay. It was by Hamilton's counsel that the reading of the young lawyer was directed to the doctrines of the civil law and the treatises of the jurists of continental Europe. In 1793 Kent removed to New York, was appointed one of the two masters in chancery for the city of New York. In 1796 he became a member of the legislature. He was also elected professor of law in Columbia College. The body of his lectures at Columbia formed in after years, in some degree, the basis of his celebrated 'Commentaries.' In 1797 he was appointed recorder of the city and in 1798 judge of the Supreme Court. He continued a member of this tribunal till 1814, having been from 1804 chief justice. The Supreme Court at that time differed widely from the court as at present constituted. It was formed after the model of the English King's Bench, being composed of five judges, who rode the circuits to try jury cases, and convened during the year at four appointed terms to decide reserved questions of law. There were no American law books and no reports of American decisions, except those of Dallas just commenced. The proceedings of the court were languid and dilatory, and resort was had for rules of procedure and principles of law almost exclusively to English precedents and decisions. The accession to the bench of a young, energetic and able judge produced a striking change. It was the task of the court to expound the principles of the common law, as applicable to American institutions; to define and limit our new constitutional provisions; to construe recent statutes; to bring the principles of commercial law to bear upon transactions of trade and commerce; to devise rules of practice, and in short, to adapt to a young and rising nation a complicated yet practical code of laws. By the constitution of New York as it then existed an important political duty was imposed on the judiciary of the State. The judges of the Supreme Court and the Chancellor formed with the governor a council of revision with a qualified veto on legislative acts. This council was abolished in 1822. In 1814 Kent became chancellor and the seven volumes of Johnson's 'Chancery Reports,' which contain Chancellor Kent's decisions, afford a profound exposition of the system of equity law. His term of office as chancellor expired in 1823, and returning to New York he resumed his professorship at Columbia and his lectures there were given to the world, in his 'Commentaries on American Law' (1826–30). This work has since passed through 14 editions and acquired a world-wide celebrity. It has assumed in the United States the position which Blackstone in his own country has long filled by his 'Commentaries on the Laws of England.' It embraces not merely the jurisprudence of the Federal Union, but the municipal law, written and unwritten, of the several States. Consult Kent, William, 'Memoirs and Letters of Chancellor Kent' (1898).

KENT, William, English artist, architect and landscape gardener: b. Yorkshire, 1684; d. London, 12 April 1748. He was apprenticed to a coachmaker in 1698, went to London in 1703, and there made some attempts at painting, and to Rome where he was a pupil of the Cavalier Luti, and whence he was brought to England by the Earl of Burlington, his patron for the rest of his life. He was employed in portrait-painting and the decoration of walls and ceilings, but Hogarth said that "neither England nor Italy ever produced a more contemptible dauber." However, he did invent a less formal method of gardening and planting and excelled as an architect. The Horse Guards and treasury buildings and Devonshire House, Piccadilly, are his work. He published the 'Designs of Inigo Jones' (1727).

KENT, William, American engineer: b. Philadelphia, 5 March 1851. Graduated from Stephens Institute of Technology and Syracuse University, he became editor of the *American Manufacturer* and *Iron World* (1877–79), at the same time exercising his profession of engineer from the latter date to 1890. Later he became editor of *Engineering News* (1895–1903) when he was chosen as dean of the L. C. Smith College of Applied Science, Syracuse University (1903–08). In 1910 he again became editor of the Industrial Section of the *Engineering News*. He has been lecturer on engineering subjects in several well-known colleges; is the holder of numerous patents on his own inventions; and is well known as a contributor to encyclopædias and technical magazines. Among his published works are 'The Strength of Materials' (1879); 'Strength of Wrought Iron and Chain Cables' (1879); 'The Mechanical Engineer's Pocket-book' (1895); 'Steam Boiler Economy' (1901); 'Investigating an Industry' (1915); 'Bookkeeping and Cost Accounting for Factories' (1918).

KENT, William Charles Mark, English poet and journalist: b. London, 1823; d. 1902. He entered journalism and soon became editor of the *Sun* (1845–70). He graduted in law in 1859; but did not give much attention to law, journalism and literature having much more attraction for him. He was a constant contributor to the magazines and literary columns of daily and weekly papers, among them Dickens' *Household Words* and *All the Year Round*. He was editor of the Roman Catholic *Weekly Register* (1874–81). He also gave much of his time to the publication of complete editions with memoirs and critical notes of famous British writers, among them, Burns (1874), Lamb (1875), Moore (1879), Father Prout (1881), Lord Lytton (1875–98). Among his more original publications are 'Poems' (1870); 'Leigh Hunt as an Essayist' (1888); 'The Wit and Wisdom of Lord Lytton' (1883); 'The Humor and Pathos of Charles Dickens' (1884). Consult Francis, J. C., 'Notes by the Way' (1909).

KENT, a county of England, forming the southeast extremity of Great Britain and adjoining the counties of Essex (from which it is separated by the Thames), Middlesex, Surrey and Sussex. The Strait of Dover bounds it on the southeast. Its area is 1,570 square miles. Two principal ranges of hills, a continuation of the North Downs of Surrey and Hants ex-

tend through the county from west to east, terminating in the cliffs of Dover, Folkstone and Hythe, which is elsewhere diversified with many minor ranges. In the south are Romney marshes and the tract termed the "Weald," formerly extensive forests. In the north are the islands of Sheppey and Thanet and the mouths of the Medway, Stour and Darent rivers. The products are varied. Fruit culture, sheep raising, wool manufacture and the manufactures of paper, tiles, pottery, gunpowder, hopbags, etc., are extensively carried on. The capital is Maidstone. In this county are dockyards, arsenals, the famous cathedral of Canterbury, the ports of Dover and Folkstone and several well-known watering places at Margate, Ramsgate and Tunbridge Wells. It was the ancient country of Cantium (q.v.) and the first established kingdom of the Saxon heptarchy. It was settled by the Jutes and became prominent when its king, Ethelbert was converted to Christianity by Saint Augustine (597). It rapidly declined in power and in the course of the eighth century, lost all of its independence. It has eight parliamentary divisions apart from the parliamentary borough. Pop. 1,020,965. Consult Hasted, 'The History and Topographical Survey of Kent' (Canterbury 1801); 'Victoria History of the County of Kent' (London 1908).

KENT, a town near Akron, in Ohio. It is in Portage County and is situated on the Baltimore and Ohio, the Erie, the Northern Ohio Traction and Light and the Wheeling and Lake Erie railways. It is a town of about 4,500 inhabitants and possessed of numerous active industries, for its population. Among these are railroad machine shops, nut, bolt and lock factories, flour mills, concrete mixers, all of which are operated by power supplied by water. The town also possesses a normal school and is the centre of considerable local trade.

KENT, Fair Maid of, wife of Edward the "Black Prince" and mother of Richard II. See FAIR MAID OF KENT.

KENT ISLAND, the largest island in Chesapeake Bay, Md., some 15 miles long and situated seven miles east of Annapolis. It was here the first settlement in Maryland was made by William Claiborne (q.v.) in 1631. Pop. 2,600.

KENTON, Simon, American pioneer: b. Fauquier County, Va., 3 April 1755; d. Logan County, Ohio, in 1836. At 16 he had an affray with a young man, and believing he had killed his adversary, fled beyond the Alleghanies and became a companion of Boone and the other early pioneers of Kentucky. For a time he acted as a spy of Governor Dunmore, and subsequently participated in the warfare waged against the British and the Indians west of the Alleghanies, showing remarkable courage, sagacity and endurance. In 1782, learning that his former opponent was living, he returned to his native place, and soon after removed with his father's family to Kentucky. He was frequently engaged in Indian warfare, until the expedition under Wayne in 1793-94 restored tranquillity to the western frontier. As the country began to fill up with settlers his lands, to which, in consequence of his ignorance of or indifference to legal forms, he had never secured perfect titles, were taken from him, and by repeated lawsuits he was reduced to penury. He nevertheless in the War of 1812 fought with the Kentucky troops at the battle of the Thames. In 1824 he appeared in Frankfort in tattered garments to petition the legislature of Kentucky to release the claim of the State upon some mountain land owned by him. His appearance at first excited ridicule, but upon being recognized he was treated with much distinction by the legislature; his lands were released and a pension of $240 was procured for him from Congress. He died near the spot where, 58 years previous, he had narrowly escaped death at the hands of the Indians.

KENTON, Ohio, city, county-seat of Hardin County; on the Scioto River, and on the Erie, the Toledo and Ohio Central and the Cleveland, Cincinnati, Chicago and Saint Louis railroads; about 54 miles northwest of Columbus and 67 miles south of Toledo. It is situated on the divide which separates the waters of the Ohio River from those of Lake Erie. It was settled in 1833 and incorporated in 1885. The surrounding country is a farming section, with some large forests. The chief manufactures of the city are hardware, agricultural implements, iron, lumber and dairy products. Its principal public buildings are the armory, jail, court-house and the municipal buildings. The mayor holds office two years. The waterworks plant is owned by the city. Pop. 7,185.

KENT'S HOLE, a station and cave near Torquay, Devonshire, England, noted for its implements of the Paleolithic Age. It has been actively explored several times since 1825. Under successive layers of limestone, black mold stalagmite in red cave earth lie the archæological remains which consist of bones of primitive horses, mammoths, wolves, lions and rhinoceroses, together with stone implements of an early type. On the top of the red clay, in a deposit of black earth, evidently long exposed to the action of the air, are implements of the life of a comparatively early age in the history of human culture, such as flint chisels, scrapers and bone and horn implements. This black deposit evidently represents a very considerable period of human progress, stretching from the rude stone age to the days of Roman occupation which are represented by copper and bronze implements and weapons. The latter naturally form the upper part of the layer.

KENTUCKY (Cherokee, "prairie," "the Barrens," and not meaning "dark and bloody ground" as popularly supposed), a south-central State of the Union, one of the "Border States" (q.v.) bounded on the north by the Ohio River; the second district settled beyond the Alleghanies and the first to become a State; admitted to the Union 1 June 1792, next after Vermont. Capital, Frankfort; largest city, Louisville. It is irregular in shape, varying from a breadth of 171 miles between Cincinnati and Cumberland Gap to about 40 miles in the narrow part near the Tennessee, and being 458 miles in length from east to west. Total area, 41,283 square miles. Lat. 36° 30′ to 39° 9′, N.; long. 82° 2′ to 89° 40′ W. It ranks first in caves and caverns, cannel coal, hemp, race horses and tobacco; third in distilled liquors; fifth in coal production.

Topography and Hydrography.— Its northern boundary is the low-water mark on the northern bank of the Ohio River; its western, the course of the Mississippi as described in 1763. The eastern boundary is a large angle formed by the Tug Fork of Big Sandy and the main Big Sandy flowing northwest, the other side lying against Virginia, along the main Cumberland Range to Stone Mountain; thence across a divide to Little Black Mountain, thence by the range northward to Pine Mountain Range, to the breaks of the Russell fork of the Levisa Fork of the Big Sandy, thence northeast to the Tug Fork. The southern line separates it from Tennessee by a boundary which is nearly straight excepting a "jog" of 12 miles at the Tennessee River, where the original surveyors made an error. The surface is mainly a plateau averaging about 800 feet above sea-level, sloping in a northwesterly direction to the Ohio from the southeastern mountains. The Poor Fork Valley of the Cumberland, lying between Pine Mountain and the main Cumberland Range, is 15 miles wide and 75 miles long, from 1,000 to 1,500 feet in elevation, and is buttressed by peaks sometimes 3,500 feet high, thus presenting the finest scenic portion of the southern Appalachian Mountains. The Pine Mountain, which is an erosion scarp fault, forms a long even-topped ridge about 2,500 feet above sea-level, with its steep face toward the northwest. The highest points in the State are in Harlan County, from 3,600 to 4,100 feet above sea-level. The great north and central Blue Grass region (limestone) is an undulating plateau circled by a continuous hill-ridge taking many different local names (Muldraugh Hill, King's Mountain and Big Hill), and extending in a great curving sweep from the mouth of Salt River to the mouth of the Scioto. In the west it forms the edge of a limestone plateau, while in the east this limestone is surmounted with the basal conglomerate of the coal measures, giving to it a very rugged aspect.

The drainage system is mainly a series of rivers flowing northwest into the Ohio, following the surface trend: the Big Sandy with its Levisa Fork, the Licking, Kentucky, Salt and Green. In the western end of the State the great rivers Cumberland and Tennessee, after pursuing widely eccentric courses, follow the same direction to the same goal 15 miles apart. The Cumberland, rising near the eastern edge, flows crookedly through the southern part, dips into Tennessee, and returns to Kentucky. The Tennessee takes a wider sweep southward into Alabama, but turning back almost joins the Cumberland. These streams are noteworthy for their rock channels. The Kentucky, in particular, has cut a superb gorge through more than 300 feet of limestone in its lower courses; and where it trenches across the Cincinnati Arch has walls nearly perpindicular, as at High Bridge.

Southwest from the centre of the State only the larger stream channels appear on the surface. Here is a "Karst" region, full of depressions through which the water sinks away, finding subterranean paths to the master stream, the Green River. A clogging of these passages frequently results in forming ponds. This is the great cavernous district of the State, made famous by Mammoth Cave (q.v.), the largest in the world. As in all limestone districts, the underground waters have dissolved the rocks irregularly, leaving fantastic channels and sculptures, huge chambers and narrow flumes, making deep pools and cascades, and creating stalactites and stalagmites, pendant and upright shafts. Its magnificent proportions, with the presence of a considerable stream navigable in one of its pools for rowboats, make it convenient for exploration and a fascinating spot for tourists. Colossal Cave and Great White Onyx are equally attractive.

Geology.— This district was at one time the bed of a vast lake of the Lower Silurian period; on its floor were laid several sedimentary deposits: Upper Silurian, Devonian, Subcarboniferous some 5,000 feet deep, and on these Carboniferous, (coal measures) to 3,000 feet more. The great Appalachian uplift raised this some 5,000 feet, the surface forming a dome in the centre; then forces of denudation acted planewise across the top, cutting away all the upper strata down to the original Lower Silurian in the middle — whence the outcrop of blue limestone in the Blue Grass region — and other strata to varying degrees in other parts, leaving the coal measures exposed in two great patches 100 miles apart at the edges. In the southwest the Subcarboniferous limestone is at the top — the region of caves and sinks.

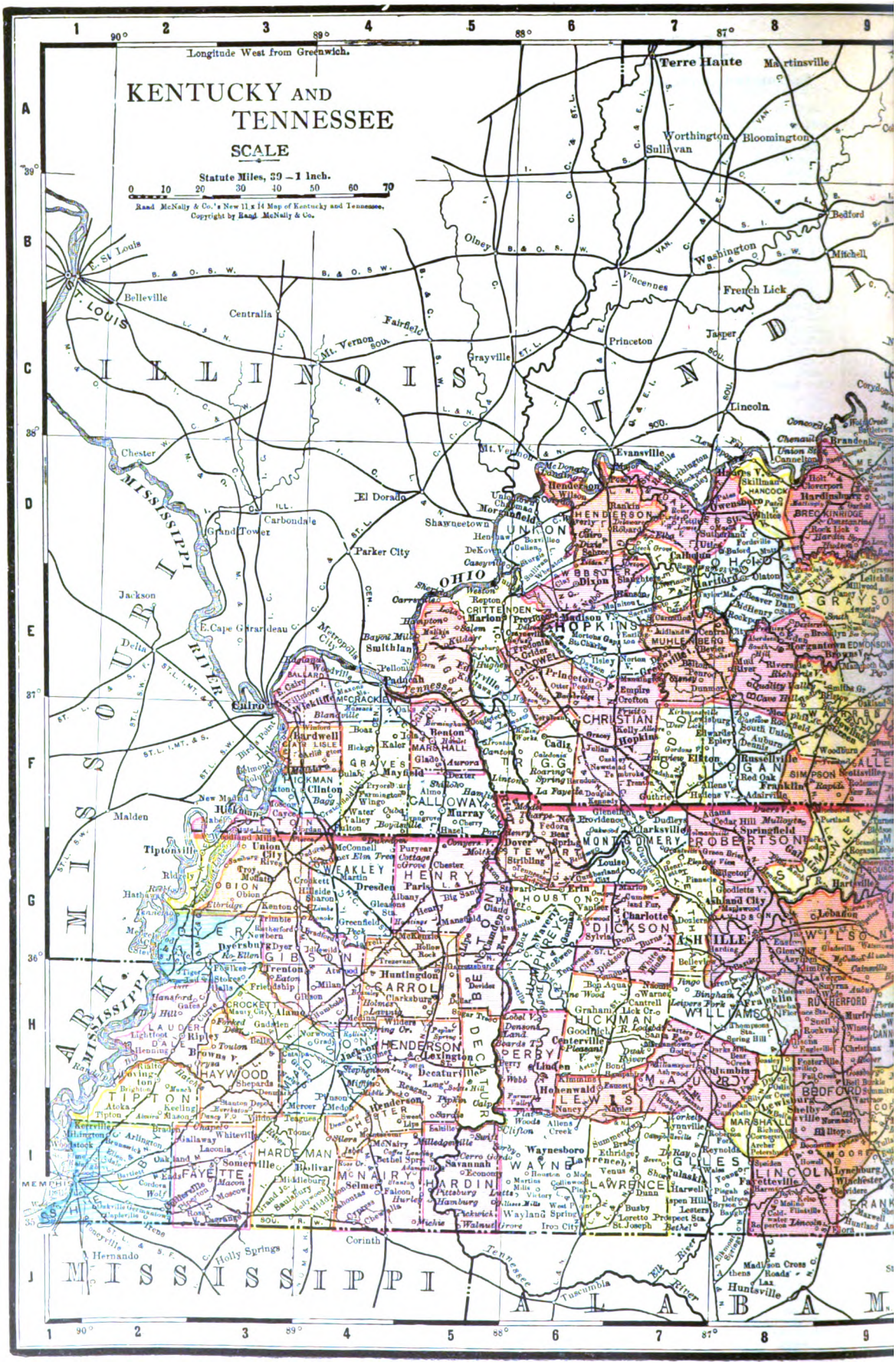
Mineral Wealth.— Bituminous coal mining has grown rapidly in recent years, the output rising in 1917 to 27,809,976 tons, and giving Kentucky fifth place in the Union. While the Western field yielded the larger proportion in 1907, the Eastern field produced two-thirds of the total in 1917. Rich veins from six to eight feet thick occur at shallow depths permitting easy exploitation at minimum expense. This condition has invited capital from other States. Practically all the increased railroad mileage along the Louisville and Nashville and Chesapeake and Ohio lines is in the coal districts. Company towns, such as Jenkins and McRoberts, grew up quickly to serve the mining communities. The chief markets are the lake ports, though the rich content of some of these coals for coking and by-products has created special demand in Saint Louis and Pittsburgh. Cannel, or gas coal, is plentiful in Morgan County, yielding 43,000 tons a year. Petroleum and gas wells, slightly utilized by the early settlers, and almost undeveloped even a decade ago, sprang into prominence with the outbreak of the World War. Traces of oil and gas occur in more than 50 counties. While gas production is vastly exceeded by the West Virginia fields, the smaller Kentucky field is now tapped by lines which supply Mount Sterling, Winchester, Lexington and other cities of the Blue Grass, and Louisville. Gas production in 1910 attained a value of $891,000. The oil industry, however, has caused much more excitement. The older fields in Wayne County on the Tennessee border, extending northeast through Wolfe County, and served by pipe lines for many years, seemed to be stationary in production; but the high prices created by war demands led to tests in adjoining counties, with most surprising results. At depths rarely exceeding 1,300 feet in Estill and Lee counties in the eastern section, and about Allen County on the Tennessee border, new supplies appeared.

KENTUCKY.
(TENNESSBE.)
Estimated population, 2,379,639
COUNTIES

Pop.		
16,503	Adair	E 11
14,882	Allen	F 9
10,146	Anderson	C 12
12,690	Ballard	E 3
25,293	Barren	F 10
13,988	Bath	C 14
28,447	Bell	F 14
9,420	Boone	B 12
17,462	Bourbon	C 13
23,444	Boyd	C 16
14,668	Boyle	D 12
10,308	Bracken	B 13
17,540	Breathitt	D 15
21,034	Breckinridge	D 9
9,487	Bullitt	D 10
15,805	Butler	E 8
14,063	Caldwell	E 6
19,867	Calloway	F 5
59,369	Campbell	B 13
9,048	Carlisle	F 4
8,110	Carroll	B 11
21,966	Carter	C 15
15,479	Casey	E 12
38,845	Christian	F 6
17,987	Clark	D 13
17,789	Clay	E 14
8,153	Clinton	F 11
13,296	Crittenden	E 5
9,846	Cumberland	G 11
41 020	Daviess	D 7
10 469	Edmonson	E 9
9,814	Elliott	C 15
12,273	Estill	D 14
47,715	Fayette	C 12
16,066	Fleming	C 14
18,623	Floyd	D 16
21,135	Franklin	C 12
14,114	Fulton	F 3
4,697	Gallatin	B 12
11,894	Garrard	D 12
10,581	Grant	B 12
33,539	Graves	F 4
19,958	Grayson	E 9
11,871	Green	E 10
18,475	Greenup	B 16
8,512	Hancock	D 8
22,696	Hardin	D 9
10,566	Harlan	F 15
16,873	Harrison	C 13
18,173	Hart	E 10
29,352	Henderson	D 6
13,716	Henry	C 11
11,750	Hickman	F 4
34,291	Hopkins	E 6
10,734	Jackson	E 13
262,920	Jefferson	C 10
12,613	Jessamine	D 12
17,482	Johnson	D 16
70,355	Kenton	B 12
10,791	Knott	E 16
22.116	Knox	F 14
10 701	Larue	E 10
19,872	Laurel	E 13
20,067	Lawrence	C 16
9,531	Lee	D 14
8,976	Leslie	E 15
10,623	Letcher	E 16
16,887	Lewis	C 15
17,897	Lincoln	E 12
10,627	Livingston	E 5
24,977	Logan	F 8
9,423	Lyon	F 5
35,064	McCracken	E 4
.....	McCreary	F 13
	(Pop. incl. in Pulaski, Wayne and Whitley Cos.)	
13,241	McLean	D 7
26,951	Madison	D 13
13,654	Magoffin	D 15
16,330	Marion	D 11
15,771	Marshall	F 5
7,291	Martin	D 16
18,611	Mason	B 14
9,783	Meade	D 9
6,153	Menifee	D 14
14,063	Mercer	D 12
10,453	Metcalfe	F 10
13,663	Monroe	F 10
12,868	Montgomery	C 14
16,259	Morgan	D 15
28,598	Muhlenberg	E 7
16,830	Nelson	D 10
10,601	Nicholas	C 13
27,642	Ohio	D 8
7,248	Oldham	C 11
14,248	Owen	C 12
7,979	Owsley	E 14
11,985	Pendleton	B 13
11,255	Perry	E 15
31,679	Pike	E 16
6,268	Powell	D 14
35,986	Pulaski	E 12
4,121	Robertson	B 13
14,473	Rockcastle	E 13
9,438	Rowan	C 15
10,861	Russell	E 11
16,956	Scott	C 12
18,041	Shelby	C 11
11,460	Simpson	F 8
7,567	Spencer	D 11
11,961	Taylor	E 11
16,488	Todd	F 7
14,539	Trigg	F 6
6,512	Trimble	B 11
19,886	Union	D 6
30,579	Warren	F 9
13,940	Washington	D 11
17,518	Wayne	F 12
20,974	Webster	D 6
31,982	Whitley	F 13
9,864	Wolfe	D 14
12,571	Woodford	C 12

Incorporated Cities, Towns, and Villages

683	Adairville	F 8
579	Albany	F 11
353	Alexandria	B 13
436	Allensville	F 7
384	Anchorage	C 10
555	Arlington	F 4
9,874	Ashland	C 16
197	Athens, Fayette	C 12
631	Auburn	F 8
1,787	Augusta	B 14
184	Bagdad	C 11
337	Bandana, Ballard	E 3
1,633	Barbourville	F 14
2.126	Bardstown	D 11
1,087	Bardwell	F 4
532	Barlow, Ballard	E 3
357	Barnsley, Hopkins	E 6
270	Baskett, Henderson	D 6
1,360	Beattyville	D 14
762	Beaver Dam	E 8
269	Bedford	B 11
208	Beech Grove	D 7
6,683	Bellevue	F 5
824	Benton	F 5
1,510	Berea	D 13
339	Berry	C 13
68	Bethlehem, Henry	C 11
349	Birmingham	F 5
449	Blackford, Webster	D 6
136	Blaine	C 16
229	Blandville	F 4
352	Bloomfield	D 11
132	Bluff City, Henderson	D 6
257	Bonnieville	E 10
236	Booneville	E 14
9,799	Bowling Green	F 9
330	Bradfordsville	E 11
482	Brandenburg	D 9
254	Bremen, Muhlenberg	E 7
77	Briensburg, Marshall	F 5
477	Brodhead	E 13
819	Bromley	B 12
492	Brooksville	B 13
313	Brownsville	E 9
85	Bryantsville	D 12
298	Buffalo	E 10
679	Burgin	D 12
817	Burkesville	F 11
183	Burkley, Carlisle	F 4
172	Burlington	A 12
1,117	Burnside	E 12
426	Butler	B 13
1,005	Cadiz	F 6
121	Cairo	D 6
742	Calhoun	D 7
248	California	B 13
124	Calvert City	F 5
269	Campbellsburg	C 11
1,206	Campbellsville	E 11
326	Campton	D 15
163	Cane Valley	E 11
430	Caneyville	E 9
131	Canmer	E 10
1,293	Carlisle	C 13
1,906	Carrollton	B 11
298	Carrsville	E 5
259	Carter	C 15
230	Caseyville	D 5
3,520	Catlettsburg	C 16
645	Cave City	F 10
299	Centertown, Ohio	D 8
2,545	Central City	E 7
272	Cerulean	F 6
170	Chaplin, Nelson	D 10
155	Chicago, Marion	D 11
376	Clarkson, Grayson	E 9
1,098	Clay	E 6
581	Clay City	D 13
1,497	Clinton	F 4
1,403	Cloverport	D 8
1,022	Columbia	E 11
970	Columbus	F 4
213	Concord	B 15
2,589	Corbin, Whitley	F 13
252	Corinth	C 12
942	Corydon	D 6
57,144	Covington	B 12
467	Crab Orchard	E 12
189	Crittenden	B 13
402	Crofton	F 7
163	Cromwell, Ohio	D 8
159	Cropper	C 11
235	Curdsville	D 7
3,603	Cynthiana	C 13
5,420	Danville	D 12
1,350	Dawsonsprings	E 6
6,979	Dayton, Campbell	B 13
75	Deanefield, Ohio	D 8
141	Defoe	C 12
260	Dexter	F 5
741	Dixon	E 6
386	Dover	B 14
1,126	Drakesboro, Muhlenberg	E 7
143	Dry Ridge	B 12
125	Dublin, Graves	F 4
138	Dunmor	E 7
144	Dunnville	E 12
176	Dycusburg	E 5
3,931	Earlington	E 7
698	East Bernstadt	E 13
77	Eastview, Hardin	D 9
1,442	Eddyville	E 5
381	Eden, Martin	D 16
168	Ekron, Meade	D 9
1,970	Elizabethtown	D 10
135	Elizaville	C 14
94	Elkhorn, Taylor	E 11
1,228	Elkton	F 7
900	Elsmere, Kenton	B 12
1,274	Eminence	C 11
700	Erlanger	A 12
182	Eubank	E 12
128	Ezel, Morgan	D 15
292	Fairfield, Nelson	D 10
108	Fairview	F 7
134	Fallsburg, Lawrence	C 16
1,180	Falmouth	B 13
271	Fancy Farm, Graves	F 4
427	Farmers	D 14
136	Farmington	F 4
404	Ferguson, Pulaski	E 12
68	Flat Gap, Johnson	D16
1,219	Flemingsburg	C 14
250	Florence, Boone	B 12
702	Ford, Clark	D 13
649	Fordsville	D 8
80	Fort Mitchell, Kenton	B 12
158	Foster	B 13
188	Fountain Run	F 10
11,080	Frankfort	C 12
3,063	Franklin	F 8
421	Fredonia	E 6
172	Frenchburg	D 14
2,575	Fulton	F 4
404	Furguson, Pulaski	E 12
4,533	Georgetown	C 12
287	Germantown	B 14
87	Gest, Henry	C 11
421	Ghent	B 12
458	Gilbertsville, Marshall	F 5
2,316	Glasgow	F 10
303	Glasgow Junction	E 10
237	Glencoe	B 12
43	Gordonsville	F 7
157	Gracey	F 6
106	Grange City, Fleming	C 14
213	Gratz, Owen	C 12
735	Grayson	C 15
450	Greensburg	E 10
680	Greenup	B 15
1,604	Greenville	E 7
1,096	Guthrie	F 7
300	Hamilton (Render P. O.) Ohio	D 8
509	Hanson	E 7
366	Hardin, Marshall	F 5
737	Hardinsburg	D 8
657	Harlan	F 15
3,147	Harrodsburg	D 12
976	Hartford	E 8
1,002	Hawesville	D 8
537	Hazard	E 15
395	Hazel	F 5
257	Hazel Green	D 15
525	Hellier	E 16
12,192	Henderson	D 6
242	Henshaw	D 5
2,736	Hickman	F 3
148	Hickory Grove	F 4
1,977	Highland Park, Jefferson	C 10
182	Hillsboro	B 14
370	Hindman	E 15
179	Hiseville, Barren	F 10
744	Hodgensville	D 10
10,762	Hopkinsville	F 7
103	Horse Branch	D 8
881	Horse Cave	E 10
118	Huntsville, Butler	E 8
384	Hustonville	E 12
316	Hyden	E 14
153	Independence	B 12
381	Ines	D 16
272	Irvine	D 14
665	Irvington, Breckinridge	D 9
647	Island, McLean	D 7
1,346	Jackson	D 15
177	Jamestown	F 11
345	Jeffersontown	C 10
86	Jeffersonville, Montgomery	C 14
546	Jellicocreek, Whitley	F 13
150	Jonesville	C 12
747	Junction City	D 12
304	Kevil, Ballard	E 3
200	Kirkmanville	F 7
212	Knottsville, Daviess	D 7
889	Kuttawa	E 5
266	Lafayette	F 6
426	La Center, Ballard	E 3
1,152	La Grange	C 11
12	Lairsville, Russell	E 11
1,507	Lancaster	D 12
1,723	Lawrenceburg	C 11
3,077	Lebanon	D 11
807	Lebanon Junction	D 10
269	Lee City, Wolfe	D 14
1,053	Leitchfield	E 9
65	Lenoxburg, Bracken	B 13
253	Lewisburg	F 7
596	Lewisport	D 8
41,097	Lexington	C 13
330	Liberty	E 11
161	Lilly	E 13
154	Lisman, Webster	D 6
1,220	Livermore	E 7
685	Livingston	E 13
153	Lockport, Henry	C 11
1,638	London	E 13
1,356	Louisa	C 16
238,910	Louisville	C 10
4,163	Ludlow	A 12
118	Lynnville, Graves	F 4
530	McHenry	E 8
146	McKee	E 13
190	Mackville, Washington	D 11
4,966	Madisonville	E 7
626	Manchester	E 14
109	Mannsville, Taylor	E 11
1,627	Marion	E 5
160	Martinsburg, Elliott	C 15
5,916	Mayfield	F 4
308	Mays Lick	B 14
6,141	Maysville	B 14
98	Middleburg, Casey	E 12
7,305	Middlesboro	F 14
937	Midway	C 12
207	Milburn	F 4
799	Millersburg	C 13
355	Milton	B 11
154	Minerva	B 14
260	Monterey	C 12
1,338	Monticello	F 12
1,105	Morehead	C 15
2,725	Morganfield	D 6
569	Morgantown	E 8
1,266	Mortons Gap	E 6
81	Mt. Carmel, Fleming	C 14
157	Mt. Eden, Shelby	C 11
321	Mt. Olivet	C 13
657	Mount Pleasant, Harlan	F 15
3,932	Mt. Sterling	C 14
930	Mt. Vernon	E 13
475	Munfordville	E 10
2,089	Murray	F 5
298	Nebo	E 6
235	Nepton, Fleming	C 14
468	New Castle	C 11
118	New Columbus, Owen	C 12
72	Newfoundland, Elliott	C 15
405	New Haven	D 10
240	New Hope	D 11
214	New Liberty	D 12
79	New Market, Marion	D 11
31,927	Newport	A 13
2,935	Nicholasville	D 12
390	North Middletown	C 13
235	North Pleasureville, Henry	C 11
254	Nortonville	E 7
2,073	Oakdale, Jefferson	C 10
257	Oakland	E 9
1,132	Olive Hill	C 15
17,784	Owensboro	D 8
1,024	Owenton	B 12
942	Owingsville	C 14
24,842	Paducah	E 4
942	Paintsville	D 16
91	Paradise, Muhlenberg	E 7
5,859	Paris	C 13
104	Pellville, Hancock	D 8
731	Pembroke	F 7
68	Penrod	E 7
407	Perryville	D 12
393	Petersburg	A 12
651	Pewee Valley	C 11


KENTUCKY AND TENNESSEE
SCALE
Statute Miles, 39 — 1 Inch.
0 10 20 30 40 50 60 70
Rand McNally & Co.'s New 11 x 14 Map of Kentucky and Tennessee.
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Longitude West from Greenwich.
ILLINOIS
INDIANA
MISSOURI
MISSISSIPPI
ARKANSAS
ALABAMA
Terre Haute
Martinsville
Worthington
Bloomington
Sullivan
Bedford
Mitchell
Vincennes
French Lick
Jasper
Princeton
Lincoln
Evansville
Henderson
Owensboro
Hawesville
Hardinsburg
Cloverport
Skillman
Whitesville
Calhoun
Utica
Ohio
Hartford
Beaver Dam
Central City
Greenville
Drakesboro
Muhlenberg
Madisonville
Nortonville
Hopkinsville
Princeton
Eddyville
Kuttawa
Cadiz
Trigg
Lyon
Caldwell
Crittenden
Marion
Salem
Smithland
Paducah
Metropolis City
Cairo
Mound City
Bayou Mills
Pulaski
Fulton
Hickman
Clinton
Bardwell
Carlisle
Graves
Mayfield
Wingo
Water Valley
Hickory
Kaler
Marshall
Aurora
Dexter
Almo
Calloway
Murray
Hazel
Tilghman
Columbus
New Madrid
Malden
Tiptonville
Union City
Troy
Obion
Dresden
Weakley
Martin
Henry
Paris
Big Sandy
Buchanan
Dover
Stewart
Erin
Houston
Humphreys
Dickson
Charlotte
Ashland City
Clarksville
Springfield
Robertson
Montgomery
Cedar Hill
Mulloytown
Portland
Gallatin
Sumner
Lebanon
Wilson
Rutherford
Murfreesboro
Williamson
Franklin
Columbia
Marshall
Bedford
Shelbyville
Moore
Lincoln
Fayetteville
Franklin
Tullahoma
Winchester
Huntingdon
Trenton
Gibson
Carroll
Clarksburg
Milan
Crockett
Alamo
Gadsden
Dyer
Dyersburg
Rutherford
Obion
Fulton
Hickman
Lauderdale
Ripley
Dale
Tipton
Haywood
Brownsville
Toulon
Stanton
Mason
Fayette
Somerville
Macon
Moscow
Hardeman
Bolivar
Middleburg
Henderson
Lexington
Decatur
Decaturville
Chester
Jackson
Madison
Crockett
Gibson
Carroll
Benton
Humphreys
Perry
Hickman
Lewis
Wayne
Waynesboro
Savannah
Hardin
Lawrence
Lawrenceburg
Giles
Pulaski
Memphis
Hernando
Holly Springs
Corinth
Tennessee River
Elk River
Tuscumbia
Huntsville
Madison Cross Roads
Jackson
Grand Tower
Carbondale
Chester
Jackson
Belleville
Centralia
St. Louis
E. St. Louis
Olney
Mt. Vernon
Fairfield
Grayville
Parker City
Shawneetown
El Dorado
Carmi
Metropolis City
E. Cape Girardeau
Delta
Cairo
Birds Point
Bayou Mills
Smithland
Paducah
Tennessee River
Ohio River
Mississippi River
Missouri River
Big Muddy River
Big Sandy River
Obion River
Forked Deer River
Hatchie River
Wolf River
Loosahatchie River
Coldwater River
Tallahatchie River
Yazoo River
Tombigbee River
Tuscumbia River
Elk River
Duck River
Harpeth River
Cumberland River
Kentucky River
Green River
Barren River
Rough River
Nolin River
Salt River
Licking River
Big Sandy River
Tug Fork
Levisa Fork
Pound River
Clinch River
Powell River
Holston River
French Broad River
Nolichucky River
Watauga River
Doe River
Elizabethton
Johnson City
Kingsport
Bristol
Abingdon
Jonesboro
Greeneville
Rogersville
Morristown
Sneedville
Jefferson City
Newport
Cocke
Sevier
Knoxville
Maryville
Blount
Loudon
Roane
Kingston
Harriman
Rockwood
Oak Ridge
Clinton
Anderson
Campbell
Scott
Morgan
Fentress
Pickett
Overton
Putnam
Cookeville
Jamestown
Monterey
Crossville
Cumberland
Sparta
White
Van Buren
Warren
McMinnville
Manchester
Coffee
Tullahoma
Bedford
Shelbyville
Lincoln
Fayetteville
Franklin
Giles
Pulaski
Lawrence
Lawrenceburg
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Waynesboro
Savannah
Hardin
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Decatur
Decaturville
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Lexington
Chester
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Madison
Crockett
Gibson
Carroll
Benton
Humphreys
Dickson
Charlotte
Ashland City
Clarksville
Springfield
Robertson
Montgomery
Cedar Hill
Mulloytown
Portland
Gallatin
Sumner
Lebanon
Wilson
Rutherford
Murfreesboro
Williamson
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Columbia
Marshall
Bedford
Shelbyville
Moore
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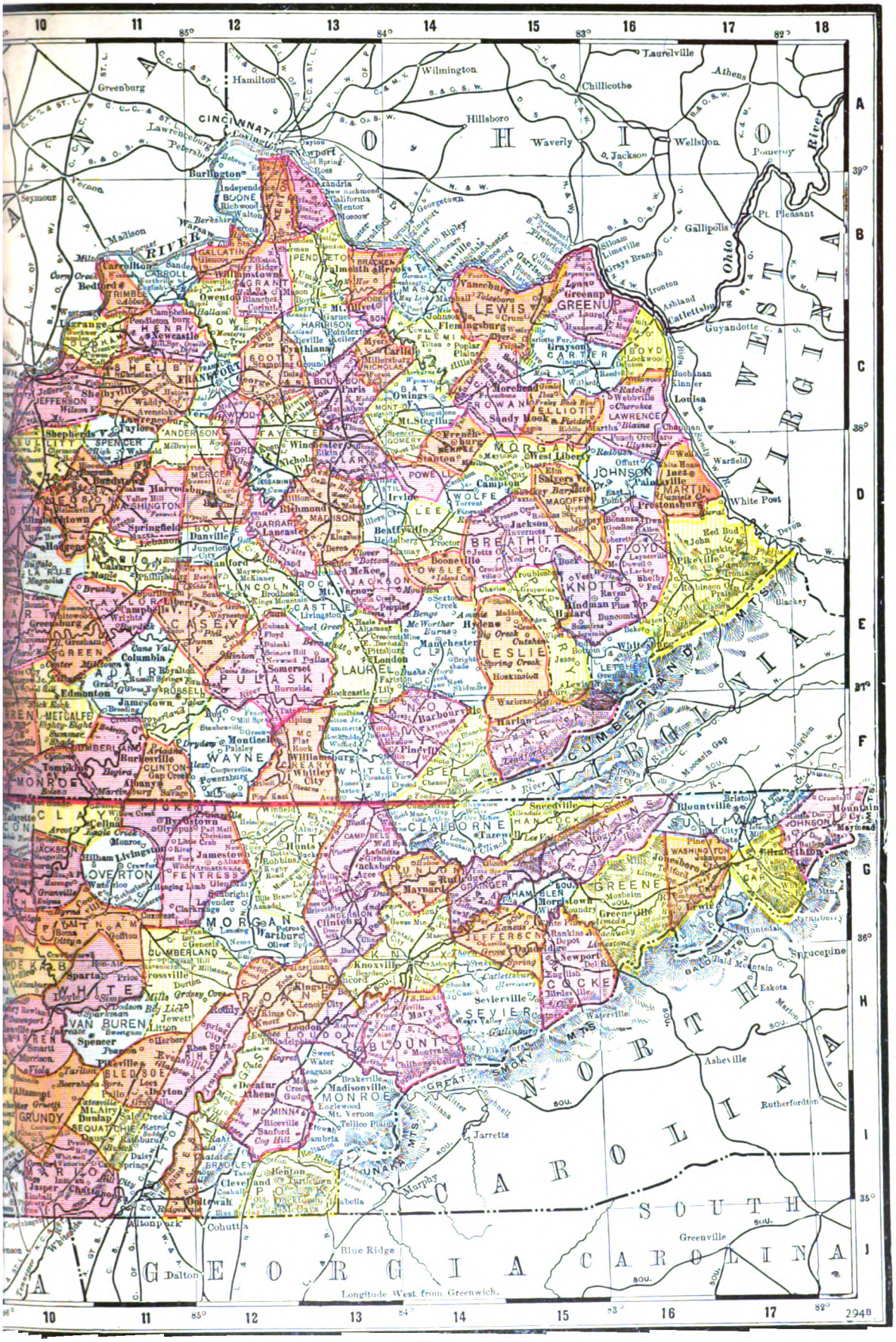
Fayetteville
Franklin
Tullahoma
Winchester


Longitude West from Greenwich.
OHIO
WEST VIRGINIA
KENTUCKY
VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
TENNESSEE
Cincinnati
Hamilton
Greenburg
Burlington
Hillsboro
Waverly
Wilmington
Chillicothe
Jackson
Wellston
Laurelville
Athens
Pomeroy
Gallipolis
Pt. Pleasant
Ohio River
Guyandotte
Ashland
Catlettsburg
Buchanan
Louisa
Warfield
White Post
Prestonsburg
Paintsville
Inez
Martin
Pikeville
Blackey
Red Bud
Elkhorn
Jenkins
Whitesburg
Hazard
Harlan
Barbourville
Pineville
Middlesboro
Cumberland Mts.
Cumberland Gap
Bristol
Blountville
Kingsport
Mountain City
Johnson City
Maynead
Jonesboro
Greeneville
Morristown
Newport
Cocke
Sevierville
Gatlinburg
Great Smoky Mts.
Asheville
Rutherfordton
Spruce Pine
Eskota
Bald Mountain
Jarretts
Murphy
Blue Ridge
Altoona
Cohutta
Dalton
Greenville
Seymour
Madison
Versailles
Lawrenceburg
Petersburg
Williamstown
Owenton
Carrollton
Bedford
Westport
Lagrange
Shelbyville
Frankfort
Georgetown
Paris
Cynthiana
Falmouth
Brooksville
Maysville
Vanceburg
Flemingsburg
Greenup
Lewisburg
Ashland
Grayson
Carter
Boyd
Lawrence
Elliott
Morehead
Sandy Hook
Owingsville
Mt. Sterling
Winchester
Richmond
Lancaster
Harrodsburg
Danville
Stanford
Lebanon
Springfield
Bardstown
Shepherdsville
Louisville
Jeffersontown
Salyersville
Magoffin
Johnson
Martin
Floyd
Knott
Letcher
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Leslie
Clay
Manchester
Hyden
Booneville
Jackson
Beattyville
Irvine
Richmond
Berea
Mt. Vernon
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Somerset
Pulaski
Stockcastle
Monticello
Burkesville
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Jamestown
Columbia
Greensburg
Edmonton
Glasgow
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Tompkinsville
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Dyersburg
Tiptonville
Ripley
Brownsville
Jackson
Trenton
Humboldt
Milan
Bolivar
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Memphis
Covington
Tipton
Arlington
Germantown
Collierville
Lagrange
Grand Junction
Corinth
Iuka
Tuscumbia
Florence
Sheffield
Muscle Shoals
Decatur
Athens
Huntsville
Scottsboro
Bridgeport
Chattanooga
Cleveland
Dalton
Rome
Summerville
Trion
Lafayette
Ringgold
Dunlap
Sequatchie
Pikeville
Spencer
Van Buren
Sparta
Crossville
Livingston
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Monterey
Byrdstown
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Gainesboro
Carthage
Lebanon
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Tullahoma
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Murfreesboro
Smyrna
La Vergne
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Cookeville
Sparta
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Mountain City
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Oldham
Jefferson
Shelby
Spencer
Anderson
Woodford
Bourbon
Franklin
Boone
Kenton
Campbell

Pop.		
1,280	Pikeville	E 16
2,161	Pineville	F 14
934	Pittsburg	E 13
522	Pleasureville	C 11
179	Poole, Webster	D 6
190	Poplar Plains	C 14
152	Port Royal	C 11
1,120	Prestonsburg	D 16
162	Prestonville, Carroll	B 11
3,015	Princeton	E 6
143	Proctor	D 14
2,084	Providence	E 6
242	Pryorsburg	F 4
285	Quincy	B 15
182	Raywick, Marion	D 11
5,340	Richmond	D 13
115	Richpond, Warren	F 9
334	Robard	D 7
437	Rochester	E 8
658	Rockport	E 8
138	Rocky Hill Station	E 9
89	Rosewood, Muhlenberg	E 7
166	Rosine	E 8
12	Rowena, Russell	E 11
233	Rowletts, Hart	E 10
413	Rumsey	E 7
1,038	Russell	C 16
104	Russell Springs	E 11
3,111	Russellville	F 8
438	Sacramento	E 7
467	Sadieville	C 12
320	Salem	E 5
45	Saloma, Taylor	E 11
532	Salt Lick	C 14
310	Salyersville	D 15
250	Sanders	B 12
160	Sandy Hook	C 15
261	Sardis, Mason	B 14
257	Science Hill	E 12
1,327	Scottsville	F 9
1,500	Sebree	E 6
410	Sharpsburg	C 14
3,412	Shelbyville	C 11
318	Shepherdsville	C 10
253	Sherburne	C 14
185	Simpsonville, Shelby	C 11
53	Skillesville, Muhlenberg	E 7
443	Slaughtersville	E 7
557	Smithland	E 4
726	Smiths Grove	E 9
4,491	Somerset	E 12
250	Sonora	D 10
365	South Carrollton	E 7
627	Southgate, Campbell	B 13
107	Sparta, Gallatin	B 12
448	Spottsville	D 7
1,329	Springfield	D 11
660	St. Charles	E 6
151	St. Helens, Lee	D 14
154	St. Mary	D 11
381	Stamping Ground	C 12
1,532	Stanford	E 12
278	Stanton, Powell	D 14
205	Stephensport	D 9
1,467	Sturgis	D 6
171	Sullivan	D 6
255	Sulphur	C 11
320	Summersville	E 10
622	Taylorsville	D 11
113	Tilton	C 14
160	Tolu, Crittenden	E 5
639	Tompkinsville	F 10
653	Trenton	F 7
115	Turners Station, Henry	C 11
544	Tyrone, Anderson	C 12
1,356	Uniontown	D 5
141	Upton	E 10
1,145	Vanceburg	B 15
208	Verona	B 12
2,268	Versailles	D 12
570	Vine Grove	D 10
254	Waddy	C 11
174	Walnut Grove, Morgan	D 15
650	Walton	B 12
900	Warsaw	B 12
433	Washington	B 14
228	Water Valley	F 4
311	Waverly	D 6
1,751	West Covington, Kenton	B 12
442	West Liberty	D 15
192	West Louisville	D 7
782	West Point	C 10
490	Wheatcroft	E 6
281	White Plains, Hopkins	E 6
321	Whitesburg	E 16
452	Whitesville, Daviess	D 7
157	Whitley, Pulaski	E 12
989	Wickliffe	E 4
177	Willard	C 15
2,004	Williamsburg	F 13
800	Williamstown	B 12
7,156	Winchester	D 13
404	Wingo	F 4
217	Woodburn	F 9
173	Woodbury, Butler	E 8
326	Worthville	B 11
98	Yosemite	E 12
224	Zion	D 7

The old marketing facilities proved utterly inadequate. A pipe line which in 1914 marketed only 480,000 barrels received in 1918 over 4,000,000 barrels, an increase of 800 per cent in four years. The total yield of the two fields, east and west, now exceeds 8,000,000 barrels annually. The oil is of the best grade, commanding a high price. Iron, which gave good promises of expansion about the year 1880, has faded away before the advance of the northwestern ores, which are used in the mills at Ashland. Kentucky iron is profitably mined only near Cumberland Gap, and in Trigg, Lyon and Caldwell counties in the west. Of minor minerals one may mention the limestone products, such as Kentucky River marble, asphalt, sandstones. clays, barytes and phosphates used for fertilizers. Extensive mining of fluor spar occurs in Crittenden and Livingston counties adjoining the Illinois field. Mineral springs are numerous, but only 12 were ranked as commercial in 1915.

Climate and Rainfall.— The Mississippi bottoms are malarious, but the rest of the State is free from objectionable tendencies. The death rate normally 15.2 per thousand increased to 17 per thousand during the influenza epidemic in 1918. Mean winter tempeature is 35° F., while the annual average is 55° F. Owing to its exposure to storms from southwest and northwest alike, considerable variation may occur, tempered, however, by the proximity of the mountains to the east. Water is abundant in all parts of the State. The average precipitation is 44 inches without a record ot excessive drouth in any year.

Forests.— About a third of the State is covered with commercial forests. Along the Alleghany slopes there is a great quantity of fine timber, most of it being hardwood of astonishing variety. Oaks of many different kinds — white, red, black, post, overcup, chestnut and black-jack — hickory, black walnut, blue ash, maple, elm, beech, chestnut, poplar, sweet gum, yellow pine, sycamore and hackberry are only a portion of its wealth, still largely virgin, though now being rapidly exploited. Poplar, black walnut and cherry are now scarce. Some cypress occurs about Reelfoot Lake.

Soils.— There are 10 main soil areas, corresponding to the chief geological formations. The most fertile of these, the Trenton, includes the best parts of Fayette, Woodford, Jessamine and adjoining counties, 1,200 square miles. This soil is residual, formed by the disintegration of the gray Lexington limestone, which is rich in phosphorus; consequently some fields of this region a century old show no sign of exhaustion. Surrounding this area is the Cincinnatian, 7,900 square miles, with somewhat less phosphorus in their blue limestones. Northeastward from Allen County to the Ohio River stretches the Waverly area, 4,400 square miles, whose soils wash badly and lack plant food. The Western coal field 4,500 square miles, is in need of drainage and proper fertilizers to become valuable agriculturally. Surrounding this is a belt of varying width, equal to 8,000 square miles — one-fifth of the State's area. It contains limestone which, if used in connection with the phosphate beds of Tennessee, would build up its soil to a high degree of fertility. One of these counties, Warren, is the centre of the strawberry industry of the State. Eight counties west of the Tennessee, called the Purchase, an area of 2,360 miles, are composed of transported soils. The largest single area is the Eastern coal field, some 10,000 square miles, or one-fourth of the entire State, mountainous and easily eroded. Throughout the principal areas described thus far, however, are river alluvium sections, highly productive because of overflows. Also, in the best agricultural districts are found belts of poor land, thus presenting problems of scientific soil treatment. (Consult Exper. Station Bull. No. 193).

Agriculture.— Although Kentucky and Tennessee are apparently artificial divisions of the same body of land, the slight difference in latitude and soils works a complete change in their characteristic products. Tennessee produces large quantities of cotton, while Kentucky produced but 3,469 bales in 1909, nearly all in one county, Fulton. The leading farm products are corn, tobacco, hay and wheat; and the State raises nearly all the hemp in the United States. Truck farms and orchards are frequent along the Ohio, especially near Louisville and Cincinnati. In 1910, 86.3 per cent of the land surface was in farms, and 64.7 per cent of this was improved. From 1900 to 1910 the number of farms increased 24,518 or 10.4 per cent, compared with 6.6 per cent increase in population. Intensive cultivation decreased the size of the farms to 85.6 acres; over one-fourth ranging from 50 to 99 acres. Those farms over 175 acres are only one-ninth of the total number, which was 259,185. Colored farmers operated only 11,709 farms, or about 2 per cent of the area. The most conspicuous change in the decade was in tenure; the number of cash tenants remained about the same while share tenants doubled. The farms owned by their operators constituted two-thirds of all; the value of all farms was $773,797,000.

The best-known crop is tobacco, of which Kentucky produces far more than any other State, and usually one-third of the total crop of the Union. In 1910 the total crop was 1,103,000,000 pounds; that of Kentucky, 425,000,000 pounds; in 1915 Kentucky raised 356,000,000 pounds, or 33 per cent of the total, North Carolina being next with 198,000,000 pounds. In 1918 the yield was 360,000,000 pounds, marketed at the highest prices ever recorded in the State, about 30 cents a pound, compared with averages as low as six cents in 1907. From the depressed markets of 1907, when good tobacco was sold at three and four cents, or was taken home by angry farmers, the recovery is due first to the unions of growers against the Tobacco Trust, in Burley and Dark districts alike. These unions, attempting to coerce reluctant neighbors to join with them, precipitated the Night Riders' disturbances, which led to the posting of sentries by the militia to prevent the destruction of property. Pools, legalized by the legislature in 1910, took charge of the sales and raised prices by collective selling. With the outbreak of war in Europe came a large demand from the armies; and finally the rapid spread of prohibition seems to have intensified the civilian demand for tobacco products. Christian and Daviess counties produce large quantities of the Dark or Pryor to-

bacco, much sought by French and Italian buyers, and popularly called «regie» tobacco, while the Blue Grass counties, such as Fayette and Bourbon, raise the light or Burley variety, sought for its absorptive qualities, and marketed at Lexington first in 1905 in baskets on the floor of warehouses. This practice has made Lexington the largest «loose leaf» market in the world, and has taken the supremacy from Louisville where the marketing is done by hogsheads.

Hemp is almost as famous as tobacco, but its decline is unchecked; in 1859, 78,818,000 pounds; in 1909, only 6,420,000 pounds. The high prices created by the World War revived this industry but little, the acreage for 1917 being 19,200 — all in the Blue Grass counties. Other fibres from Mexico and the Philippines have supplanted it in the factories.

The largest crop in value and volume is corn, 124,372,000 bushels in 1917, valued at $160,000,000. Corn has furnished the material for the great distilling interests as well as food, and provender for animals on the farm.

Wheat from 1907 to 1917 yielded 10,000,000 bushels annually, aided by the fine crop of 12,540,000 bushels in 1914, the largest in recent years. The superb pastures yield large quantities of hay and forage. Blue Grass seed varies widely in output, from 200,000 bushels in 1910 to 1,500,000 in 1912 and back to 200,000 in 1917. Minor products are butter and cheese, 38,680,000 pounds in 1909; potatoes, 6,426,000 bushels in 1915; wool, 3,550,000 pounds in 1915; sorghum cane, 226,000 tons in 1909. Oats yielded 7,000,000 bushels for the first time in 1917. The value of miscellaneous crops in 1909 was placed in the census at $50,000,000.

Stock-raising.— The mild winter climate, permitting cattle to remain out with little feed, the excellent pastures of blue-grass which grows thick in the shade as well as in the open, and the abundant limestone water which produces strong growth of bone materials, all together promote the rearing of livestock with unexampled success. These advantages were seized by a rare group of breeders who have made Kentucky the centre of the Union for blooded stock. Especially is this true of thoroughbred horses. The old Virginia stock, bred from choice imported English animals, themselves bred to combine speed and endurance, were taken by the Kentucky breeders and kept pure or mixed with equally good fresh blood. Complete records and pedigrees constitute an important part of this work. Kentucky horses have made three-fourths of all the winnings on the American turf. The State Racing Commission, created by a law of 1906, has sustained the breeding industry at a critical period; and the demand for thoroughbred horses for remounts in the army and replenishment in foreign lands now exceeds the supply. Other breeders have applied similar principles to the improvement of sheep, swine and cattle. The number of horses reported in 1919 was 439,000; mules, 231,000; swine, 1,768,000; sheep, 1,274,000; cows, 440,000; total value of all livestock on farms, $177,396,000. Poultry and poultry products are important. Turkeys, in particular, are shipped to the Eastern markets.

Manufactures.— The immense hardwood forests, large coal fields and natural waterways for half a century after her admission to the Union kept Kentucky abreast of her neighbors industrially. But the rise of steam navigation built up the river cities at the expense of the inland towns, so that Lexington which had 114 factories in 1810, was eclipsed in a short time by her rivals. Other elements contributing to the same end were tardiness in building railroads into the forests and coal fields, and the absence of a wage-earning class such as immigration supplies. In 1850 the number of wage-earners was reported as 21,476; in 1900 51,735; and in 1914 only 64,586.

In 1914 the total value of manufactured products was $230,248,909. This was less than 1 per cent of the total value of the output of the nation in that year. In order of value, distilled liquors stood first, $48,862,526: 157 establishments giving the State second rank in the Union in this trade; the next in value was flour-milling of a value of $21,229,000; third was lumber products, valued at $20,667,000, with the largest number of operatives in any industry; fourth, tobacco products, $16,146,000; fifth, cars and car-shop work, $13,344,000. No other industry reached $10,000,000 in value. The total number of establishments was 4,184, with a capital of $193,423,000. The tobacco industry, which claimed its small factories in every town in the 18th century, has declined relatively. Louisville, the principal hogshead market of the world, has some 17 plants for tobacco manufacturing. Owensboro and Henderson have establishments preparing the leaf for shipment. Bourbon whisky, so named from the county of Kentucky to which many Pennsylvania «moonshiners» removed after the suppression of the Whisky Insurrection in 1794 (q.v.), has become famous all over the world. Distilleries were set up as early as 1783 at Louisville, a little later in other towns and in 1787 along Salt River by a Maryland colony. Large establishments found favorable situations in many parts of the State. Their payments for internal revenue, checked by officers of the department, gave Kentucky fifth place in the Union in 1916, the total for liquors and tobacco being $35,870,087. The manufacture of malt liquors is concentrated largely in Louisville and Newport. Pork packing was a prominent industry until the grain fields of the Northwest caused its removal from the Ohio Valley. Nevertheless, Louisville has maintained a livestock market, receiving in 1918, 180,000 cattle, 46,000 calves, 780,000 hogs and 256,000 sheep and lambs. Her packing plants converted a large proportion of these receipts into food and other products. The firm position of the lumber industry is shown at each census. Logging is promoted by river improvement at the expense of the Federal government, whereby rafts may be sent to the cities from the upper courses of the Cumberland, Licking and Kentucky. During the World War some 2,000,000 walnut gunstocks were made for the Allies in the factories about Louisville. Carriages and wagons are made in Louisville, Henderson and Owensboro from the easily supplied forest woods. Iron and steel works are declining from their earlier position. The first furnaces were abandoned for lack of transportation facilities; in 1846

others were built at Eddyville on the lower Cumberland by William Kelly; and in 1851, five years before the Bessemer process was patented, Kelly began his "air-boiling" process, essentially the same, for turning iron into steel. During these years steamboats were built at Cincinnati with boiler plates made by the Kelly process, and the latter finally secured a royalty.

Louisville is prominent in the manufacture of jeans clothing, now being replaced by the cassimeres. Her proportion of the total manufacturing of the State is nearly one-half, being $105,000,000 in $230,000,000. Her fuel rates are the lowest in the Union among large cities not located in the coal fields. Her manufactures of sanitary ware, boxes and farm implements are noteworthy. She is the largest importer of mahogany logs in the United States.

Transportation.— Kentucky has 813 miles of navigable waters on her boundaries — the Ohio 643 miles, the Mississippi 50 miles, the Big Sandy 120 miles. The Cumberland and Tennessee are navigable their entire courses within the State; improvements now far advanced have made the Kentucky, Licking, Salt and Green much more valuable than formerly. The canal around the falls of the Ohio at Louisville has been widened recently. Still, the supremacy of the railroad is revealed in the statistics of coal shipments into Louisville in 1918: 84,142 tons by river, and 1,636,258 tons by rail. The railroad, however, has not overcome the difficulties of the mountains of the eastern and southeastern regions; until lately, hundreds of square miles of territory had not a mile of railroad track. This mountain area is a part of Appalachian America — picturesque, beautiful, full of survivals of the English of Elizabethan days. Unable to sell the grain from their small fields in the valleys and "coves," they converted it into whisky in home-made stills and fought off or evaded the revenue collectors until miners, oil prospectors and travelers broke the seclusion of the hills. Then the settlers, in many cases, left their homes and sought places in the Blue Grass or elsewhere as farmers. Branches of the Baltimore and Ohio, Chesapeake and Ohio and the Louisville and Nashville roads have penetrated many of these remote districts. The total mileage in 1918 was 4,200, of which about 200 represented the two electric systems centering at Lexington for the Blue Grass towns and at Louisville for the suburban service. In western Kentucky the Illinois Central affords connection with Chicago and the South. The assessed valuation of all steam and electric lines 30 June 1917, was $160,262,387. Improved roads, especially those of the macadam type, have been common in the Blue Grass counties for nearly a century. When, therefore, a campaign was started in 1908 for a State tax for this purpose, these counties were reluctant to support such a measure. The new law (1912) imposed a road tax of five cents on each $100 of assessed property, created a State engineer and provided for the inter-county-seat roads first. On this basis not only county but national highway projects have been advanced, such as the Lincoln Highway, Jackson Highway, etc. A natural accompaniment is the increase in automobiles and motor trucks. The licenses taken out in 1911 were 2,868; in 1914, 11,746; in 1915, 19,500; in 1917, 47,416; in 1918, 65,870.

Population.— The population of the State at the various censuses has been as follows: 1790, 73,677; 1800, 220,955; 1810, 406,511; 1820, 564,317; 1830, 687,917; 1840, 779,828; 1850, 982,405; 1860, 1,155,684, including 10,684 free negroes, and 210,981 slaves; 1870, 1,321,011; 1880, 1,648,690; 1890, 1,858,635; 1900, 2,147,174; 1910, 2,289,905. The foreign-born numbered 40,162, or 1.8 per cent; half Germans, the Irish following with 5,900. The colored population was 261,656, not so large as in 11 other States; nor are the colored people increasing so fast as the whites, there having been a decrease of 23,200 since 1900. Classified by city and county, 75 per cent is rural, while 25 per cent is urban. There seems also to have been some tendency among the negroes to emigrate, and a large emigration of whites, especially to Oklahoma and Texas, has occurred. The increase was 6.6 per cent and the density is 57 per square mile.

The one great independent city of Kentucky is Louisville (240,808) at the falls of the Ohio, the third in size on the river, excelled only by Cincinnati and Pittsburgh. Covington (59,623), Newport (32,133), Bellevue (6,683) and Dayton (6,979) are virtually suburbs of Cincinnati, the first-named west of the Licking, the last three east of it. Other cities on the Ohio, which monopolizes much the greater part of the urban development and manufacturing of the State, are in the west, Paducah (25,178) at the mouth of the Tennessee, Owensboro (18,070) and Henderson (12,312); in the northeast, Maysville (6,141); on the east, Ashland (12,195), now head of a rapidly growing iron and coke district. Lexington (41,997), the first capital, once called "Athens of the West," is the head of the Blue Grass region. Frankfort (11,179), the capital; Bowling Green (9,900), the head of navigation on the Barren River, a tributary of the Green; Hopkinsville (10,979); Winchester (7,156); Danville (5,420); Mayfield (5,916); Middlesboro (7,305); Paris (5,859) and Richmond (5,340) are also over 5,000.

Charitable and Penal Institutions.— There are insane asylums at Lexington, Hopkinsville and Lakeland; a notable institution for the education of the blind at Louisville; a State school for deaf-mutes at Danville; and an institution for feeble-minded children at Frankfort, which, however, restricts the ages to the period of 6 to 18, and requires that they shall not be too feeble-minded for training. The State penitentiaries are at Frankfort and Eddyville, and the Reform School is at Greendale, near Lexington. About 2,000 feeble minded are maintained in homes at State expense. Confederate veterans are aided by the Home at Pewee Valley, and by pensions voted in 1912.

Government.— The State officers are elected for four years, in the November preceding the Presidential election; they cannot be re-elected. The governor has a veto by items, but a majority vote overrides it. The legislature consists of 38 senators chosen for four years, and 100 representatives for two years. Sessions are biennial, and limited to 60 legislative days. Provisions concerning revenue bills and impeachments follow the model of Congress. Women (by a law of 1912) can hold office on

school boards and vote on school issues. No State, county, city or town officers except members of city legislative boards can be elected in the year of a Presidential election. The judiciary is headed by a Court of Appeals, consisting of not over seven or under five elective judges, with terms of eight years. There are no townships, only "magisterial districts," and the county, as in old Virginia, is the political unit. There are 120 counties. Each county is entitled to three sittings of a Circuit Court each year. The circuit judges are elected for six years, in districts. There is a county judge, and a monthly court day. County officers are elected for four years, except a Circuit Court clerk for two years, and the sheriff is ineligible to re-election except in alternate terms. Counties must have a minimum area of 400 square miles, and the county-seat must be at least 10 miles from the boundary. There are 11 representatives in Congress.

Banks.— The main features of the banking history of the State include the Bank of Frankfort in 1806, and the Clearing House at Louisville, established in 1875, which has more than once saved many of the better banks from disaster in panics. The clearings at Louisville in 1918 were $1,159,000,000; those at Lexington, $64,248,000. Not until 1912 was a State Department of Banking legally established, although Secretary Bruner, under Governor Willson, in 1910 began to inspect State banks in consequence of several failures. The report for 1918 included 444 banks and trust companies, with aggregate capital stock of $19,117,650; surplus, $8,030,000; deposits, $131,000,000. Including the national banks the total deposits were $266,951,865.

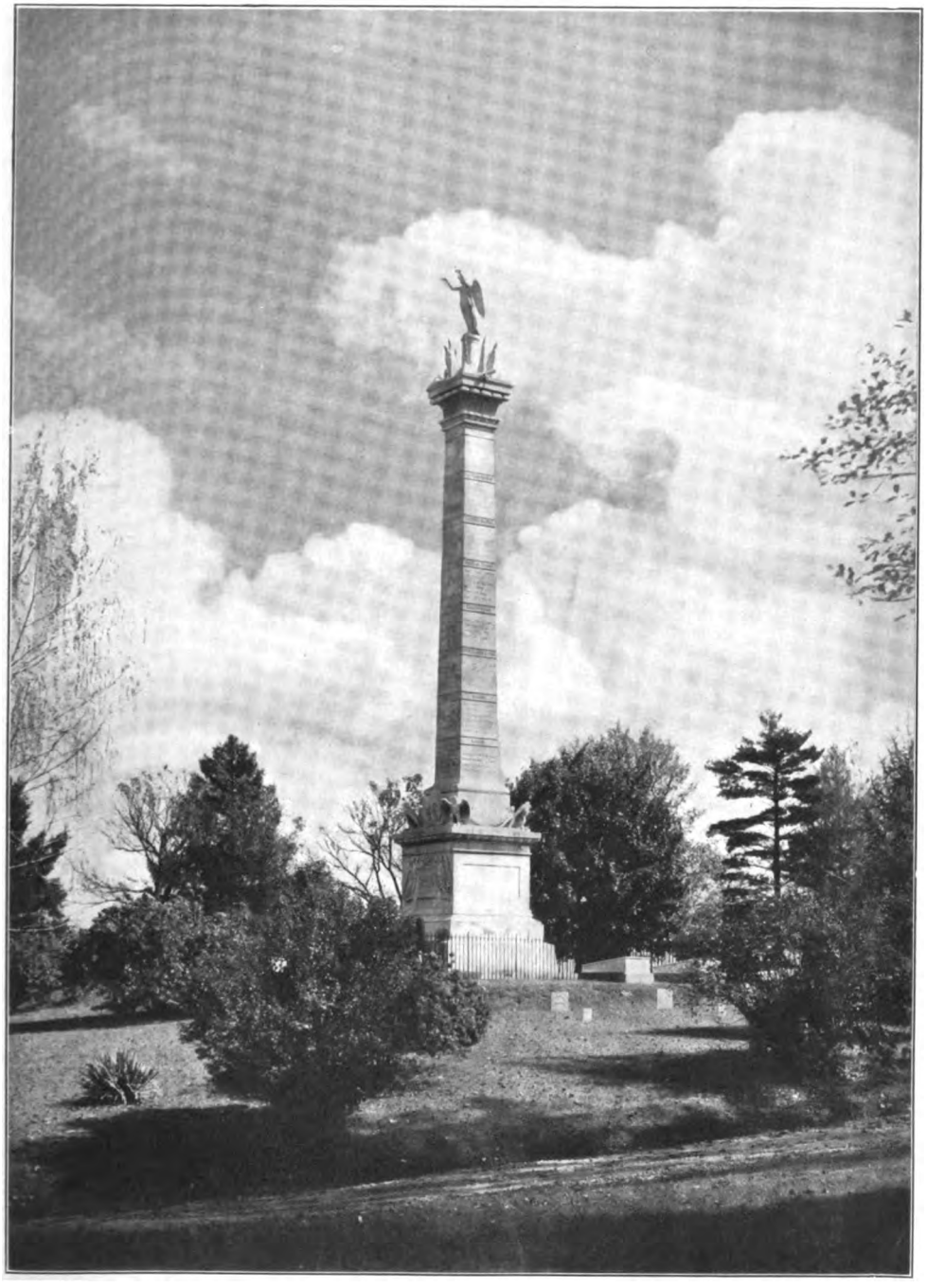
Finances.— The assessed valuation for 1917 was $922,456,000; for 1918, $1,403,978,000, an increase due to war prices and to new valuations by the Tax Commission which was created in 1917, under the authority of a constitutional amendment of 1915. This law requires the classification of property, and exempts certain classes from local taxes. Its various provisions make Kentucky as progressive as any State in taxation. The tax rate is reduced from 55 cents to 40 cents per $100. The income, however, is divided into parts, or funds, arbitrarily, so that some expenditures are not fully met, while other departments are self-sustaining. No funded debt is allowed, but the deficiency of about $3,000,000, mostly incurred since the construction of a new capitol, is carried as a floating debt in the form of treasury warrants which are redeemed as surplus accumulates in the treasury. The revenues and receipts are close to $10,000,000 yearly, of which sum the city of Louisville contributes one-fourth. Losses of revenue occasioned by prohibition will delay the reduction of the debt. On the other hand some relief is seen in the growth of public service corporations now assessed at $70,941,824, as well as in that of oil companies. Local conditions are among the best in the Union, the per capita debt of cities and counties being, in 1913, $10.95, placing the State in fifth rank in this respect. In consequence the credit of local bonds is very high.

Social Legislation.— Kentucky's lawmakers have in the past 15 years adopted most of the progressive legislation of the age: Conservation of natural resources, mine safety appliances, child labor restrictions, compulsory school attendance, workmen's compensation acts, tax reform, high schools, agricultural extension programs, juvenile courts, prison probation, care for delinquents and dependents, bank inspection, training for teachers, fire prevention and insurance. They have quickly accepted the various proposals of co-operation extended by the Federal government in educational and improvement matters, and ratified the amendments on income taxes and prohibition. To apply most of these reforms they have appointed competent commissions.

Churches.— The religious census of 1906 placed the church membership in Kentucky in the following rank: Baptists of all bodies, 311,583 or 36 per cent of the total number of members; Roman Catholic, 165,908 or 20 per cent; Methodist bodies, 156,007 or 18 per cent; Disciples of Christ, 136,110 or 16 per cent. These figures of course include colored as well as white communicants.

Education.— The school census of 1916–17 reported 740,576, of whom 352,059 or 48 per cent attended school. Those enrolled were 555,568 or 75 per cent of the total number of school age. Those above the age of 20 and below 6, in school, were 12,807. The total number of teachers was 13,031, mostly women. The number of schoolhouses was 8,616, of which 7,035, or about seven-eighths, had one room. Progress was evident, however, in the construction of 407 new buildings during the year. The value of all school buildings and grounds was $14,090,709; of apparatus and furniture, $1,523,468 more. In 1917–18 the expenditures on the public schools were $8,142,484.28, or an average of $14.66 for each pupil enrolled. The terms have happily been extended. A determined effort along this line has put the great majority of schools — 7,567 — in the seven months group; 335 have eight months and 306 have nine months. This result is in marked contrast with conditions a few years earlier. Obviously, attention has been given to the matter of attendance, which is coupled with child labor laws. The Kentucky Child Labor Law of 1908, improved since that date, is one of the most advanced in the Union. In some of the cities a Juvenile Court with probation officers assist the labor inspector and the school officers in requiring attendance at school. These results flow from a general revision of the educational laws and requirements in 1908. Volunteer speakers and workers carried on educational campaigns throughout the State to awaken public sentiment, and each session of the general assembly since then has taken deep interest in legislation affecting the schools. Besides other features one may mention the Truancy Act of 1908; the Illiteracy Commission of 1916; County High School Act of 1908; and its modification in 1916 permitting co-operation by two or more counties; increased sources of revenue by various acts; addition of agriculture and domestic science to the curriculum.

The effort to eradicate illiteracy, the extent of which is subject to various estimates in the absence of accurate figures, was begun in Rowan County, September 1911, in what were called "moonlight" schools, intended for adult illiterates. Volunteer workers taught older



Confederate Monument at Frankfort

men and women to read and write. Their work created a better attitude toward the day schools, and has been extended to the army cantonments where illiterate soldiers are taught by workers from various associations. The legislature voted $5,000 for this commission in 1916. Other States have followed Kentucky in this reform.

High schools are of comparatively recent origin. They were preceded by private schools and colleges for the wealthy class, so that public education languished. After the reorganization of 1908, the General Education Board provided an inspector and examiner for several years. Under these influences the private schools have given place to high schools, often selling their buildings and equipment to the board of education. County high schools have grown rapidly in the rural counties, about 20 each year since 1909, and the total, city and county, in 1917 was 376, with 20,800 pupils, 1,288 teachers and 2,208 graduates. Two-thirds of the teachers were college or normal graduates, and libraries were found in 272.

Kentucky provides for colored pupils in separate schools, and the United States Supreme Court upheld the principle by requiring Berea College to remove colored students to a separate place — Lincoln Institute, near Shelbyville. The Kentucky Normal and Industrial Institute is at Frankfort.

In 1916 there were 4 private normals, 17 commercial and 83 private schools of secondary or collegiate rank. Both white and colored schools are supported by taxes which pass through the State treasury, thus making the richer counties assist the poorer. The reports, however, may create a misleading impression because many communities keep local taxes low under cover of State aid. Recent legislation permits counties to levy local taxes up to 30 cents per $100 for their schools. This act, aided by better inspection, will probably complete the reform and give Kentucky schools equal to the best in rural States.

Kentucky's school fund for 1917 consisted of the following: Interest on bonds (perpetual), $138,939; license taxes, $156,000; sheriff's collections, $2,285,000; fines, $30,000; tax on distilled spirits and liquor dealers, $320,000; banks and bank deposits, $200,000; oil (1 per cent of market value), $100,000; railroads, $332,000; dog tax, $35,000; race track licenses, $25,000; corporations, $110,000; inheritances, $70,000. Total, about $3,800,000. These sums represent parts or in a few cases the whole of various items named by law for support of the schools. Other portions are devoted to other "funds," as they are called.

The head of the public school system is the University of Kentucky at Lexington, formerly the A. & M. College, founded under the Morrill Act of 1862. In 1878 it was detached from Kentucky (Transylvania) University, and by subsequent acts of the legislature its functions were enlarged. It has colleges of arts and science, agriculture, engineering and mining, and law. In conjunction with the Experiment Station and the State health laboratories it has the facilities of 300 acres of land, property worth $1,200,000, and a combined income of $900,000 annually. Transylvania University, founded in 1798, once known as Kentucky University, is now under control of the Christian denomination. Both Transylvania and Center College, at Danville, long under Presbyterian control which was broken by the terms of the Carnegie Foundation, maintained professional colleges in Louisville. The Baptists established Georgetown College at Georgetown; the Methodists, South, the Kentucky Wesleyan College at Winchester; and an anti-slavery element founded at Berea an institution admitting both white and colored students until required to separate them, as explained above. Louisville is the seat of a Baptist and a southern Presbyterian seminary, as well as the University of Louisville, which has medical, scientific and liberal arts departments and enjoys a small appropriation from the city.

In the educational changes beginning in 1906, the legislature authorized two State normal schools, later located at Richmond and Bowling Green.

History.— The earliest inhabitants built mounds in the northern and western parts of the State. They left burials in rocky cliffs, caves, or mounds. A fortified hill remains in Madison County (Indian Fort). Relics of Indian occupation, however, are plentiful. A large Indian town existed at Indian Fields, Clark County, but no other town has been identified. Despite an abundance of game no nation held Kentucky in force, but Iroquois and southern tribes knew it well. Their war parties and hunters and even traders came from remote regions as we learn from stone and metal relics. Copper from Lake Superior, hard substances from the Rocky Mountains, shells from the Gulf of Mexico, and other mute evidences of trade and travel attest the popularity of this region before 1750. In that year the Loyal Land Company sent Thomas Walker by way of Cumberland Gap, which he named, into the new country as far as the Kentucky River. He returned without finding good lands and made an unfavorable report. In 1750 also, Christopher Gist (q.v.), a Yadkin man, employed by the Ohio Land Company, traveled from Pittsburgh to a point near the falls of the Ohio (Louisville). Thence in a wide sweep he crossed the Blue Grass and returned to the Yadkin. In 1752 a trader, John Finley, on a trip down the Ohio was captured by Shawnees, taken to Indian Fields and held captive several months. The French and Indian War delayed further exploration until 1765. In May 1769 Finley took several Yadkin farmers, among them Daniel Boone, later a hero of both frontiersmen and Indians, on what proved to be a protracted visit to Kentucky. A company from the Holstein and New River district followed in 1770. Stories circulated by these pioneers created an intense desire on the part of many to move there, and surveyors were active in 1773 locating bounty lands for Virginia soldiers. Harrodsburg was founded in 1774; Boonesborough, where the first convention was held, was laid off in 1775. In the meantime Richard Henderson purchased from the Cherokees their claim to the vast area between the Kentucky and the Cumberland for the Transylvania Company (February 1775), which began to sell land to actual settlers. Both Virginia and North Carolina disapproved of this policy and in 1776 the former incorporated the region as Kentucky County, suc-

ceeding Fincastle County. Henderson received tardy justice in later years with another grant.

During the Revolution Kentucky was harassed by British and Indian attacks from beyond the Ohio. Many settlers went away but others remained and a few even joined Clarke at the Falls for his expedition to Vincennes. Louisville and Lexington were laid off in 1779 and Lexington colonists founded Cincinnati. In November 1780 Kentucky was divided into Fayette, Jefferson and Lincoln counties, thus losing its name for three years. Indian attacks in 1782 were severe: Estill's defeat and Lower Blue Licks proving disastrous for the whites, and leading to Clarke's retaliatory attack on the Miami towns. Kentucky was born with the Republic in the decade 1782–92. Despite Indian depredations, population rose to 30,000 in a few years. Danville was the seat of the new judicial district of Kentucky. The failure of Virginia on numerous occasions to protect the growing settlements from Indian attack so alienated the people that rumors of separation were rife; moreover, most of the settlers were from Maryland, Pennsylvania and Carolina. Reports of a Cherokee attack in 1784 led to a demand for separation by a convention at Danville, delegates being chosen according to population. Nine other conventions voiced this demand in petitions to Virginia and Congress. Wilkinson and Spanish agents thought this sentiment might be turned to Spain's advantage; economic conditions pointed the same way; but the Kentuckians did not respond. On 1 June 1792 the State was admitted with a constitution granting full manhood suffrage — one of the earliest in the Union. For six months Lexington was the capital; then Frankfort replaced her. Kentucky was from the first fiercely democratic and, like all frontier States, sensitive to complaints of injustice and discrimination. The difficulty of shipping produce to the seaboard seemed to support the plots of Wilkinson and Burr. Similarly, the harsh aspects of the Alien and Sedition Acts of Adams drew forth the spirited response of the Kentucky Resolutions of 1798 and 1799. Clay and other young leaders so fanned the embers of their fathers' bitterness against British and Indian warfare that the State raised for the War of 1812 7,000 soldiers though her quota was 5,500. Her troops saw service at the Raisin, the Thames and at New Orleans. In 1818 the western boundary was extended to the Mississippi through the purchase by the United States of the Chickasaw lands west of the Tennessee. This area extended into Tennessee, so that t southern boundary also required accurate adjustment. This was ef cted by a joint commission. The financial depression after 1818 created a large debtor class to which the legislature promised relief. This it did by chartering the Bank of the Commonwealth and making its notes a legal tender. Opponents, called the Anti-Relief party, secured a decision of the courts declaring the act unconstitutional. Undaunted, the Relief party elected a legislature pledged to destroy the court and create a new court in its place. After five years' struggle the old judges were restored in 1826. The census of 1820 reported 564,317 inhabitants, which gave Kentucky the sixth place. Keenly alive to the need of an outlet for produce, the Blue Grass built the first railroad west of the mountains, between Lexington and Frankfort, running the first train in 1835. Under the leadership of Clay the State voted the Whig and American tickets to 1855. In the Mexican War the State again exceeded her allotment of troops, offering 10,000 for her quota of 2,400.

The diverse elements of Blue Grass and mountains created sharp differences of sentiment on slavery. Families were often divided, and Kentucky furnished both presidents of the opposing sections — Lincoln and Davis. Governor Magoffin refused to honor Lincoln's call for troops; yet the State sent 80,000 men to the Union armies, while 40,000 joined the Confederacy. Bragg's invasion of 1862 and Morgan's frequent attacks caused much suffering. An attempt to install a Confederate government preceded the severe battle of Perryville, after which Bragg retreated leaving the State in Federal control. The emancipation of slaves without the compensation which Lincoln often recommended, caused a loss of $150,000,000; and the harsh measures of Burbridge and other commanders turned many Union men against the government so that the Democrats have carried every election except those of 1895 and 1907. In 1896 the Republicans secured 12 of the 13 presidential electoral votes. Kentucky rejected the XIII, XIV, XV and XVII amendments to the Constitution. The Goebel Election Law of 1898 put the supervision of elections in the hands of three commissioners appointed by the legislature. After the election of 1899 these commissioners certified that Taylor had a plurality of 2,383 votes over his opponent Goebel. Irregularities in Louisville and elsewhere caused one commissioner to dissent from this decision, and the Democratic candidates gave notice after Taylor was seated that they would contest his election before the legislature. Two contest committees were appointed, one from each House, and Taylor's supporters, alarmed at the prospect of his losing his seat, gathered in Frankfort. On 30 Jan. 1900 Goebel was mortally wounded by a concealed rifleman. The legislature assembled the next day to hear the report of its committees, which declared Goebel and Beckham had received a plurality "of the legal votes." They took the oath of office the same night, Goebel ser.ing as governor until he died, 3 February. These events caused much excitement and confusion, the consequences of which cannot be related here.

The disorders of the Civil War period have died hard. Survivals of guerilla bands appeared in the Regulators of 1868 and in the Ku-Klux of 1871. In 1897 sporadic uprisings against toll gates on the highways ultimately resulted in freeing the roads of tolls in most counties. In 1907 the Night Riders, endeavoring to obtain fair prices for their tobacco, precipitated another crisis during which barns were burned and a costly fire visited Hopkinsville. During the Great War the same spirit was more profitably and patriotically devoted by similar bands to the suppression of German sympathizers. Kentucky fully maintained her military reputation in our recent wars. The call for volunteers for the Spanish-American War attracted more men than were needed. Lexington was the concentration camp from which after a period of preliminary training the men were

moved to Chickamauga. Of the four regiments organized, the First took part in the conquest of Porto Rico, while the Third was sent to Cuba. Under the Selective Draft Act of 1917 volunteer units were merged in the National army, making it impossible to trace the fortunes of former commands. As in the previous war, Lexington was again made the preliminary camp, though Winchester received the Second Regiment. Upon the completion of the cantonments, however, most of these soldiers were sent to Camp Shelby. The largest camp, Zachary Taylor, was prepared at Louisville for the training of infantry; while artillery ranges were provided at West Point and Camp Knox. The various drafts took 58,330 men into the army; 13,934 enlisted in the army and 5,619 in the navy; a total of 77,883. Of these nearly 3,000 made the supreme sacrifice for their country. The civilian population loyally sustained the government in Red Cross work, the sale of bonds and all other activies. A list of Kentucky's distinguished sons would include Joel T. Hart, sculptor; Ephraim McDowell, surgeon; N. S. Shaler, geologist; Theodore O'Hara, elegiac poet; Henry Clay (born in Virginia), J. J. Crittenden and J. G. Carlisle, statesmen. Several living authors also enjoy a wide reputation in letters and science.

GOVERNORS OF KENTUCKY.

Isaac Shelby, Democratic-Republican		4 June 1792–7 June 1796
James Garrard, Democratic-Republican		7 June 1796–1 June 1804
Christopher Greenup, Democratic-Republican		1 June 1804–1 June 1808
Charles Scott, Democratic-Republican		1 June 1808–1 June 1812
Isaac Shelby, Democratic-Republican		1 June 1812–1 June 1816
George Madison, Democratic-Republican		1 June 1816–14 Oct. 1816
Gabriel Slaughter, Democratic-Republican		21 Oct. 1816–1 June 1820
John Adair, Democratic-Republican		1 June 1820–1 June 1824
Joseph Desha, Democratic-Republican		1 June 1824–1 June 1828
Thomas Metcalfe, National Republican		1 June 1828–1 June 1832
John Breathitt	Democrat	1 June 1832–21 Feb. 1834
James T. Morehead	"	22 Feb. 1834–1 June 1836
James Clark	Whig	1 June 1836–27 Sept. 1839
Charles A. Wickliffe	"	5 Oct. 1839–1 June 1840
Robert P. Letcher	"	1 June 1840–1 June 1844
William Owsley	"	1 June 1844–1 June 1848
John J. Crittenden	"	1 June 1848–31 July 1850
John L. Helm	Democrat	July 1850–Sept. 1851
Lazarus W. Powell	"	Sept. 1851–Sept. 1855
Charles S. Morehead	American	Sept. 1855–Sept. 1859
Beriah Magoffin	Democrat	Sept. 1859–Aug. 1862
James F. Robinson	"	Aug. 1862–Sept. 1863
Thomas E. Bramlette	"	Sept. 1863–Sept. 1867
John L. Helm	"	3 Sept. 1867–8 Sept. 1867
John W. Stevenson	"	13 Sept. 1867–13 Feb. 1871
Preston H. Leslie	"	13 Feb. 1871–Sept. 1875
James B. McCreary	"	Sept. 1875–Sept. 1879
Luke P. Blackburn	"	Sept. 1879–Sept. 1883
J. Proctor Knott	"	Sept. 1883–Sept. 1887
Simon B. Buckner	"	Sept. 1887–Sept. 1891
John Young Brown	"	Sept. 1891–Dec. 1895
William O. Bradley, Republican		Dec. 1895–Dec. 1899
William S. Taylor, Republican		Dec. 1899–31 Jan. 1900
William Goebel	Democrat	31 Jan. 1900–3 Feb. 1900
J. C. W. Beckham	"	3 Feb. 1900–Dec. 1907
Augustus E. Willson, Republican		Dec. 1907–Dec. 1911
James B. McCreary,	Democrat	12 Dec. 1911–7 Dec. 1915
Augustus O. Stanley,	"	7 Dec. 1915–

EDWARD TUTHILL,

Professor of History and Political Science, University of Kentucky.

KENTUCKY, Oil and Gas Resources of. Petroleum, commonly called "Crude oil," was first discovered in Kentucky in 1819, in the valley of the South Fork of the Cumberland River, close to the Tennessee line in what is now McCreary County, but was then Wayne County. The strike was made by Martin Beatty, of Abingdon, Va., while drilling a shallow well for salt. Cumberland County followed with a flowing production from the Upper Ordovician rocks in 1829 and a few years later oil was found in the lower Coal Measures near Barbourville, Knox County. In the late 60's a wave of oil and gas prospecting spread over Kentucky, following the great depression caused by the Civil War. Allen, Barren, Clinton and many other counties joined the list of growing producers. During the latter part of the 19th century wells were drilled in every county in the State, and substantial, though small, new oil production came from deeper sands in Floyd, Knox and Wayne counties. Martin, Meade and Breckenridge counties at the same time developed gas in commercial quantity. In 1900 the now nearly exhausted Ragland Field, in Bath and Rowan counties, producing black, thick, low gravity oil, was first drilled in, production coming from the "Corniferous" or Onondaga limestone — the "Irvine sand" of the drillers — at the base of the Devonian system. The Sunnybrook pool of Wayne County was opened in 1901, the oil coming at a depth of 870 feet from the Mississippian "sands." Deeper drilling in all the old fields above noted continued with varying success, the greater part of the oil being transported to the northeastern markets by the Cumberland pipe line. The Cannel City pool, in Morgan County, was discovered in 1912, and in 1913 this small field produced its maximum, 12,000 barrels of crude oil a month. This production came from the same Onondaga limestone and in large quantity was relatively short lived. In 1903 the Campton pool of Wolfe County was discovered, oil being found in the Onondaga limestone at about 1,250 feet. About 300 wells were drilled in this field with an average production of 50 barrels each. The widely known Menefee Gas Field was drilled in 1901, gas coming from the Onondaga limestone at an average depth of 600 feet. Small oil production was obtained in Estill County, near Irvine, in 1903 at the time of the Campton activity. Due to the extreme shallowness of the producing sands — the Onondaga limestone — this was soon drilled up and exhausted. Due to low prices and the corresponding decreasing active development, the years 1913, 1914 and 1915 saw a steady decrease of oil production for Kentucky. Increased prices due to wartime demands restimulated activities and in 1916 the rediscovery of the Irvine pool a little to the east of the Irvine town site ushered in the present era of State-wide activity, greatly increasing production. In Powell County the Ashley pool in 1917; in Lee County, the Big Sinking pool in 1918, and in Allen County, the Johnson pool of 1919, are the present centres of greatest activity, and there are probably 800 to 1,000 rigs now drilling in the State.

Kentucky crude sells for $2.60 per barrel, with the exception of the small Ragland production. The oil is light green and has an average gravity from 32–40 Baumé. Practically all of the eastern Kentucky production is taken

by the Cumberland Pipe Line Company, and the greater part of that of Allen County is taken in tank cars by the Indian Refining Company from Scottsville, where the present pipe line runs show about 10,000 barrels per week. The large plants of the Etna Refining Company, the Standard Oil Refining Company of Kentucky and the Stoll Oil Company are located at Louisville. The total Kentucky oil production for 1919 is estimated at 7,500,000 barrels. Geologically the accumulation of petroleum in Kentucky is generally anticlinal below the top of the Mississippi system and synclinal above. Sand porosity is perhaps the greatest accompanying factor in the recently large developed fields. The geological range of production is from Ordovician to Pennington inclusive.

PRODUCTION OF EASTERN KENTUCKY PETROLEUM FIELDS — CUMBERLAND PIPE LINE COMPANY RUNS FROM WELLS.

YEAR	Total runs for year	Daily average	Remarks
	Barrels	*Barrels*	
1913	522,550	1,431.6	
1914	479,609	1,313.9	
1915	407,081	1,115.3	
1916	1,144,750	3,136.3	
1917	3,015,640	8,262.0	
1918	4,035,950	11,057.7	
1919	.....	15,370	January
1919	.....	16,160	February

During the latter part of 1918 and early 1919, the Indian Refining Company and several local pipe line concerns took oil from the Lee County fields, and their totals materially affect the foregoing figures.

WILLARD R. JILLSON,
Kentucky State Geologist.

KENTUCKY, the State University of, a coeducational institution at Lexington, Ky., founded in 1865, as a part of Kentucky University now known as Transylvania College. It was reorganized in 1878 under the name of the Agricultural and Mechanical College; as the State University of Kentucky in 1908, and as the University of Kentucky in 1916. It has agricultural, engineering, law, scientific, collegiate and graduate courses which lead to the bachelor and master's degrees. The campus contains 72 acres, presented in part by the city of Lexington, and the agricultural experiment station farm contains 250 acres. The income from both Federal and State appropriations is about $820,000. The number of instructors in 1919 was 104, experimental station experts and clubs and agricultural extension staff, 121, and the number of students in attendance was 1,355. The value of the buildings, equipment and land is about $1,200,000. The number of volumes in the library is 40,000. In co-operation with the United States Department of Agriculture, the University carries on a State-wide agricultural extension.

KENTUCKY BLUEGRASS. See GRASSES.

KENTUCKY COFFEE-TREE, a large tree (*Gymnocladus dioica*), allied to the locusts and redbuds, of the family *Cæsalpinaceæ*, and growing rather sparsely throughout the middle region of the Mississippi Valley. See GYMNOCLADUS.

KENTUCKY RESOLUTIONS, a famous series of nine resolutions introduced into the Kentucky legislature in 1798, by George Nicholas, though it was afterward known that Thomas Jefferson was the author of them. They were directed against the Alien and Sedition laws, and against acts passed to punish frauds on the Bank of the United States, and emphasized the rights of the several States. These resolutions were the outgrowth, together with a similar series known as the Virginia Resolutions, of a feeling that the Federal party was making a strained and illegitimate use of the powers granted to the Federal government by the Constitution. The Kentucky Resolutions were passed for the purpose of defining the strict-construction view of the relative powers of State and Government. They declared that the Union was not based on the "principle of unlimited submission to the General Government"; that the Constitution was a compact, to which each State was a party as over against its fellow States; and that, in all cases not specified in the compact, each party had a right to judge for itself, as well of infractions as of the mode and measure of redress. They proceeded to set forth the unconstitutionality of the Alien and Sedition Acts, and invited other States to join in declaring them void. No favorable response was evoked. In 1799 the Kentucky legislature went further, and declared a nullification of a Federal law by a State to be the rightful remedy in cases of Federal usurpation. Upon these resolutions the doctrines of nullification and secession were later founded.

KENTUCKY RIVER, a river of Kentucky, formed by two forks which rise in the Cumberland Mountains, and, after a winding northwest course of about 250 miles, enters the Ohio, 12 miles above Madison, Ind., midway between Cincinnati and Louisville. The river runs through part of its course between perpendicular limestone walls. It is navigable by steamboat beyond Frankfort, a distance of 60 miles, and flatboats can ascend 100 miles farther. At High Bridge, Jessamine County, midway between Nicholasville and Harrodsburg, spanning the gorge is the famous old Kentucky River high bridge erected late in the 70s of the 19th century. Its daring construction at the time as one of the first long span cantilever bridges in the United States and its reconstruction in 1910 are notable. The new structure built 31.3 feet above the grade of the old bridge was erected on the line of the old structure without false work and without any serious delay to the traffic of the Queen and Crescent Route over the old bridge. The new structure has three spans, each 353 feet long, resting upon steel towers and abutments, with two spans 55 feet and 69 feet long, one at each end of the bridge. The track crosses the river at an elevation of 307 feet above low water, and the total height of the top chord above the bottom of the foundation of the piers is over 319 feet.

KENTUCKY UNIVERSITY. See TRANSYLVANIA UNIVERSITY.

KENTVILLE, county town of Kings County, Nova Scotia, Canada. It lies about 70

miles northwest of Halifax with which it is connected by rail. Among its manufactures are sashes and doors and other woodwork, milling machinery, gasoline engines, carriages, wagons and automobiles. A dominion experimental farm is situated close to the town, and in the neighborhood there is also a military camp while within the corporation is a provincial sanitarium. Pop. 3,000.

KENYON, kĕn'yŏn, Sir **Frederick George,** English classical scholar: b. London, 15 Jan. 1863. Graduated from Oxford, he became fellow in Magdalen College, there, in 1888 and assistant in the British Museum the following year, and nine years later assistant keeper of manuscripts. In 1917 he was president of the British Academy. When the European War broke out he went as major of the Territorial forces to France where he served through the war. Among his numerous publications are 'Aristotle's Constitution of Athens' (1891); translation of same (1891); 'Classical Texts from Papyri in the British Museum' (1891); 'Orations Against Athenogenes and Philippides' (1892); 'Catalogue of Greek Papyri in the British Museum' (1893–1907); 'Our Bible and the Ancient Manuscripts' (1895); 'Bacchylides' (1897); 'Paleography of Greek Papyri' (1899); 'Facsimiles of Biblical Manuscripts in the British Museum' (1900); 'Handbook of the Textual Criticism of the New Testament' (1901); 'Robert Browning and Alfred Domett' (1906); 'Buildings of the British Museum' (1914). He has also published much about the work of the Brownings. He was knighted in 1911.

KENYON, James Benjamin, American poet and Methodist clergyman: b. Frankfort, N. Y., 26 April 1858. After his graduation from Hungerford Collegiate Institute in 1875 he studied theology, entered the Methodist ministry and after holding various important pastorates retired in 1906. He was a member of the editorial staff of 'The Standard Dictionary' (1910–12), was associate editor of 'The American Biographical Cyclopædia' (1912), and has been a member of the editorial staff of 'The National Cyclopædia of American Biography' from 1913 until the present time. He is a frequent contributor to the leading magazines. He is well known among American verse writers of the present, his published collections of poems including 'The Fallen and Other Poems' (1876); 'Out of the Shadows' (1880); 'Songs in All Seasons' (1885); 'In Realms of Gold' (1887); 'At the Gate of Dreams' (1892); 'A Little Book of Lullabies' (1898); 'Poems' (1901). In prose he has published 'Loiterings in Old Fields' (1901); 'Remembered Days' (1902); 'Retribution: A Tale of the Canadian Border' (1903).

KENYON, William Squire, American senator: b. Elyria, Ohio, 10 June 1869. Educated in law at the State University of Iowa, he began to practice his profession at Fort Dodge, Iowa. After filling the offices of county prosecuting attorney, district judge, district attorney and general attorney for the Illinois Central Railroad (1907–10), he became assistant to the Attorney-General of the United States (1910–11), and United States Senator (1913–19). In the Senate he advocated considerable progressive legislation directed against child labor and lobbying, and he attracted nation-wide attention by his support of the miners in their various public troubles.

KENYON COLLEGE, founded in 1824, at Worthington, Ohio, under the auspices of the Protestant Episcopal Church. It was then called Theological Seminary of the Protestant Episcopal Church, in the Diocese of Ohio. In 1827 it was removed to Gambier, Ohio, where it is now. In 1891 the name was changed to Kenyon College. The school is now composed of a college and a theological seminary. A preparatory department was maintained until 1906. In 1917 the endowment fund was $520,000. Marcus A. Hanna gave (1901) $60,000 to aid in the building of a new dormitory. The gross income is about $60,000. The number of professors and instructors, in 1917, was 19, and the number of students, 150. The library contains over 40,000 volumes. The courses lead to the degrees of A.B., Ph.B. and B.S. and in the seminary the course leads to the degree of B.D. On the graduate roll of this school are the names of many distinguished men, among them Rutherford B. Hayes, Edwin M. Stanton, David Davis and Stanley Matthews.

KEOKUK, kē'ōkuk, Iowa, is situated in the southeast corner of the State at the confluence of the Mississippi and Des Moines rivers and at the foot of the Des Moines rapids of the Mississippi River. In 1873 the government, at a cost of $8,000,000, built a seven-mile canal around the rapids and made continuous navigation possible between New Orleans and Saint Paul, but in February 1905 Congress passed a bill granting the Keokuk and Hamilton Water Power Company the right to dam the river and construct a hydro-electric plant at this point, and the seven-mile canal with its three locks, which was far too small for present day traffic, was displaced by the power plant. The new lock built to replace the old canal is one of the largest in the world. The cost of this lock and a new "up to the minute" dry dock was borne by the power company. Keokuk, called the Power City and the Gate City, is served by five railroads and several water transportation lines. The old single deck bridge at this point has been reconstructed into a double deck bridge, the railroads and street cars using the lower level and the upper level forming a high bridge that lands the highway traffic at the summit of the hill on the Iowa side. The cheap hydro-electric power, generated by the $27,000,000 power plant, has attracted factories of all descriptions to Keokuk, among them being a $2,250,000 smelter — a subsidiary of the National Lead Company — lumber mills, power works, cereal mills, box factories, starch and drug works, etc.

Situated on a bluff 120 feet above the river level, the city has ideal drainage which no doubt accounts for the healthful condition of the city and surrounding country.

Besides those mentioned, other notable features are the Federal building, the government weather bureau station, Union railway depot, courthouse, Masonic temple, public library, school buildings, National cemetery and Rand Park containing the grave of Keokuk, the Indian chief after whom the city is named.

Keokuk is operated under the commission

form of government and has a population of 16,500.

KEOKUK, Moses, an American Indian of the Sac and Fox tribe, after whom the city of Keokuk, Iowa, was named: b. 1818; d. near Kansas City, Mo., October 1903. Probably the best description of Keokuk's boyhood is contained in Drake's 'History of the North American Indians.' It tells of his visit to Washington after the Black Hawk War. Keokuk succeeded his father as chief of the Sac and Fox tribe, and removed with his people from Quenemo, Kan., to their reservation in what is now Oklahoma, in 1868.

KEPHIR, kĕf'ĕr, a native Caucasian drink made from fermented milk. See KEFIR.

KEPI, kā'pē', French infantry forage cap. In derivation the word is apparently related to the English cap, though its origin is uncertain. It was first worn by French troops in Algeria; but the use spread to all the French infantry soldiers, and to school boys first in France, but afterward to students of other countries. It has been much affected as a military cap by military schools and schools having a military department and student uniforms in the United States. It varies in style, but is always flat-topped with horizontal or slightly inclined vizor.

KEPLER, Johann, German astronomer and mathematician: b. Weil der Stadt, Würtemberg, 27 Dec. 1571; d. Regensburg (Ratisbon), 15 Nov. 1630. A contemporary of Galileo and Tycho Brahe, Kepler was one of the world's greatest astronomers, the real founder of modern astronomy; the one who first reduced the theory of the telescope to its true principles and laid down the common rules for finding the focal lengths of single lenses, and the magnifying power of telescopes. His excursions in geometry produced epoch-making results; he established the symbolism of the *sectio divina* or *proportio divina,* now known as the "golden section," and towered above all his contemporaries in stereometric investigation. Prematurely born of youthful, ill-matched parents, Kepler was physically a weakling, neglected in childhood and spending his early student years between struggling for an education and working in his father's tavern. He worked his way through elementary schools by winning scholarships which enabled him to reach the University of Tübingen. In 1593 he was appointed a teacher of mathematics at Gratz (Styria), where he devoted himself with much ardor to the study of astronomy, and attracted the attention of Tycho Brahe (q.v.) by dissertations on celestial orbits. But in 1599 religious persecutions commenced in Styria, and Kepler, being a Protestant, gladly accepted Tycho Brahe's invitation to Prague, to assist in the preparation of the new astronomical tables, called the Rodolphine tables. Tycho died in 1601 and Kepler continued the work alone, being appointed imperial mathematician and astronomer. After many years of incessant labor the tables were completed in 1624 and published in 1627 at Ulm. Kepler had become the possessor of all Tycho Brahe's papers and the mass of observations made by that astronomer during 20 years, with a precision till then unsurpassed, enabled Kepler to establish the famous 'Kepler's Laws' (q.v.), which have proved so fruitful in the development of astronomical science. Kepler enjoyed the patronage of the Emperors Rodolph and Ferdinand, the dukes of Würtemberg and Wallenstein, but his life was a continued struggle with poverty; his salary was frequently in arrears and he was exposed to much religious persecution, while his domestic relations were equally unfortunate. The latter part of his life was chiefly passed at Linz as professor of mathematics. He wrote much, but the work that has rendered him immortal is his 'Astronomia Nova, seu Physica Cœlestis tradita Commentaries de Motibus Stellæ Martis' (New Astronomy, or Celestial Physics delivered in Commentaries on the Motions of Mars) (1609). His 'Harmonice Mundi' appeared in 1619; and among other works may be cited 'De Stella Nova in Pede Serpentarii' (1606); 'De Cometis' (1619–20); 'Chilias Logarithmorum' (1624). Consult 'Lives' by Brewster, Günther and Müller; also Breitschwert, 'Johann Keplers Leben und Wirken' (1831); Hasner, 'Tycho Brahe und Kepler in Prag' (1872); Reitlinger, 'Johann Kepler' (1868); Reuschle, 'Kepler und die Astronomie' (1871). An excellent biography of Kepler is given in 'Allgemeine Deutsche Biographie' (Vol. XV, Leipzig 1882); Bryant, W. W., 'History of Astronomy' (London 1907).

KEPLER'S LAWS, in astronomy, three laws of motion discovered by Johann Kepler (q.v.) on which were founded Newton's discoveries, as well as the whole modern theory of the planets: (1) Every planet describes an ellipse, the sun occupying its focus. (2) The radius vector (line joining the centre of the sun with the centre of the planet) of each planet sweeps over equal areas in equal times. (3) The squares of the periodic times (the periods of complete revolution round the sun) of any planets are proportional to the cubes of their mean distances from the sun. These laws enabled Newton to determine the laws of the attraction of gravitation, while another result of these discoveries was to ensure for the Rodolphine tables an accuracy far exceeding that of any previous ones. Kepler did not apply his theory to comets, as he believed that they never returned. According to his idea the tail of the comet was evidence that the sun was driving the body of the comet away and dissipating its substance forever. See ASTRONOMY; COMET; LAW OF GRAVITATION. Consult Astrand, 'Keplersche Probleme'; Closs, 'Kepler und Newton und das Problem der Gravitation' (1908).

KEPPEL, Augustus, British admiral: b. 25 April 1725; d. 2 Oct. 1786. He was the second son of the 2d Earl of Albemarle, entered the sea service at an early age, and in 1755 commanded the North American squadron in Hampton Roads. He was placed in command of the Channel fleet in 1778, and in July of that year engaged the French fleet off Ushant. Having become partly disabled he signaled for his van and rear divisions, but Palliser in command of the rear ignored the signal until too late. Palliser accused him of incapacity and cowardice, but Keppel was honorably acquitted. In 1782 he was created Viscount Keppel and Baron Eldon. He was first lord of the admiralty 1782–83.

KEPPEL, Sir Colin Richard, British admiral, b. 1862. After long military service in

Egyptian waters and the Mediterranean principally, he became commander in 1895. His services in command of gunboats on the Nile (1897–98) were very effective, as was also his work in the Soudan the following year. He became rear-admiral and was in command of the Atlantic Fleet (1909–10).

KEPPEL, Frederick, American writer on art: b. Tullow, Ireland, 1846; d. 1912. Educated at Wesley College, Dublin, he came to the United States on graduation and opened, in New York city, a place as an art dealer, in which he acquired a national reputation, especially as a judge of etchings and engravings. He lectured, translated and wrote original works on art. Among his publications are 'The Etched Work of Jean François Millet' (translation); 'Modern Disciples of Rembrandt' (1890); 'Christmas in Art' (1909); 'The Golden Age of Engraving' (1910). He opened branch houses in Paris and London.

KEPPEL, Sir **Henry,** English admiral and author: b. Kensington, 1809; d. 1904. Son of the Earl of Albemarle, he was educated for the navy, in which he served from 1822, becoming successively, lieutenant (1829), commander (1833) and post-captain (1837). He saw service in India, the Mediterranean, South Africa and the Pacific Ocean, and commanded the naval brigade during the Crimean War (1854–55). During his second service on the Chinese coast, he destroyed the Chinese navy at Fatshan. He later held, in succession, the following offices, naval commander in chief at the Cape of Good Hope and on the Brazilian coast (1860–67); vice-admiral in chief of the China-Japanese squadron (1867–69); admiral (1869), stationed in England, where he was knighted for services (1871) and became admiral of the fleet in 1877. Among his published works are 'Expedition of H. M. S. Dodo to Borneo' (2 vols., 1847); 'A Visit to the Indian Archipelago' (2 vols., 1853); 'Reminiscences' (1898); 'A Soldier's Life under Four Sovereigns' (3 vols., 1899). Consult West, Algernon, 'Sir Henry Keppel' (London 1906).

KEPPLER, Joseph, American caricaturist: b. Vienna, Austria, 1 Feb. 1838; d. New York, 19 Feb. 1894. He early made his reputation as a satiric artist and the leading periodicals of his native city were publishing his witty sketches, almost before he had left the Academy of Fine Arts. But art was not then a serious business to him and he took to the stage as a comedian and opera singer, and actually began to study medicine at Saint Louis, Mo., where he made his residence in 1868. But it was in Saint Louis that he found his real vocation. There he established the German *Puck,* which, while it failed as a commercial enterprise, made his reputation. It was seen at once that a caricaturist of rare skill as a draftsman, of mental fertility and freshness, of witty and incisive satire, had appeared. He was engaged from 1872 to 1877 as caricaturist for *Frank Leslie's Illustrated Newspaper* in New York, to which city he had removed, and in 1875 he started a New York German *Puck* in association with Adolph Schwartzman. This was followed in 1877 by the English *Puck.* He was the first to use colored cartoons in caricature and drew upon a vast store of classical and historical incidents for adaptation in criticising modern social and political life.

KER, John, Scottish ecclesiastical writer and minister: b. Tweedmuir, 1819; d. 1886. Educated at Edinburgh University, he spent some time in Germany in post-graduate work. He became pastor of East Campbell Church, Glasgow, in 1851; and in 1876 was appointed professor of practical training in the United Presbyterian Theological Hall. Among his published works are 'Sermons' (1868–88); 'The Psalms in History and Biography' (1886); 'Scottish Nationality' (1887); 'The History of Preaching' (1888); 'Letters' (1890).

KERATIN (from Gr. *keras,* a horn), a substance obtained from claws, feathers, hair, horn, nails, wool and other epidermal appendages. This tissue or substance is distinguished from gelatinous tissue by becoming soft when acted on by water for some time but no glue is produced. It is insoluble in alcohol and in ether and contains a high percentage of sulphur.

KÉRATRY, kā'rā'trē', **Auguste Hilarion de,** French author and statesman: b. Rennes, 1769; d. 1859. During the French Revolution he was twice imprisoned and ran great danger of being executed on account of his high family connections. Later he became a member of the Chamber of Deputies and worked with the Liberals for the overthrow of Charles X. Louis Philippe for this work in his behalf made Kératry a peer of France (1837). Among his published works are 'Inductions Morales et physiologiques' (1817); 'Du beau dans les arts d'imitation' (1822); 'Le dernier des Beaumanoirs' (1824); 'Frederic Styndall' (1827); 'Saphira' (1835).

KÉRATRY, Count Emile de, French soldier, journalist and dramatist: b. Paris, 1832. Entering the army at the age of 22 he served in Africa, Russia and Mexico. After 11 years' military life he resigned from the army and returned to Paris and devoted himself to literature, contributing to the chief reviews of the capital. His articles on the French occupation of Mexico during the Maximilian Empire expedition, which appeared in the *Revue Moderne,* made his name well known in France. Elected to the Deputies in 1869 he made himself conspicuous by his advocacy of reforms in the suffrage and the national militia. After the fall of the Empire he was successively Prefect of Paris, diplomat in Spain, commander-in-chief of the forces in Brittany, Prefect of Haute-Garonne, Prefect of the Department Bouches-du-Rhône and editor of *Le Soir.* He wrote political pamphlets, comedies, dramas and other works. Among his published books are 'La Vie du Club'; 'La guerre des blasons,' dramas; 'La Contre-Guerrilla française au Méxique' (1867); 'L'Elévation et la Chute de l'empéreure Maximilien' (1867); 'La Créance Jecker' (1868); 'Le quatre Septembre' (1872); 'Murad V, prince, sultan, prisonnier d'état (1878); 'A travers le passé, souvenirs militaires' (1887).

KERAULI, or **KARAULI,** kĕ-roo'lē, a native state of India which is ruled over by a rajah. It lies northwest of Gwalior and of the Chumbul River which forms its southeastern

boundary. The British government maintains an adviser at the court of the rajah. The whole state contains much valuable wooded land which is generally of a more or less hilly nature. The chief industry is agriculture and the principal products rice, barley and wheat, most of which is consumed at home. Area 1,242 square miles. Capital, Kerauli. Pop. about 150,000.

KERBELA, kĕr'bĕ-lă, **Meshhed Hosein,** mĕsh'hĕd hō sān', city in Bagdad vilayet, and some 50 miles southwest of the city of Bagdad. It is connected by canal with the Euphrates. The city is Persian in the character of its buildings and its inhabitants and is looked upon as a very sacred place by the Shiahs. In commemoration of the death of Hosein, son of the Caliph Ali, who was murdered there (680) and whose body is buried in one of the mosques of the city, a passion, or historic play is performed there yearly on the anniversary of his death, just as the greater play is held periodically in Theheran in commemoration of the death of Mohammed's nephew, claimant for the robes of the prophet. For many years the sacred city was a place of refuge for criminals of all kinds who, once they had placed themselves beneath her protection, could not be extradited or brought to justice. The presence of this undesirable element was the cause of many revolts and much trouble within the city; and conditions got so bad that finally, in 1843, the right of sanctuary was formally done away with. Being a holy city in the eyes of the Shiahs and Sunnis, Kerbela possesses five fine mosques, the most striking of which is that containing the tomb of Hosein, the golden-plated domes and minarets of which can be seen glistening from afar as though beckoning the pilgrims to the sacred shrine to which none but the faithful are permitted entrance. The number of pilgrims visiting the city annually is in the neighborhood of 200,000. More pilgrims probably visit Kerbela because it is en route for Mecca. The mosques are among the richest in Asiatic Turkey and their wealth is steadily increasing from year to year. Kerbela is the centre of an extensive trade and commerce which extends throughout northwest Arabia. Among its manufactures are kneeling-bricks and shrouds. The old city, which forms the central portion of Kerbela, has crooked, narrow, dirty and ill-paved streets. This part is surrounded by a very old massive wall. Outside this wall, which is 24 feet thick, is the new city which is quite modern and attractive.

KEREN-HAPPUCH. The name of the daughter of Job, born in the time of his restored prosperity. The name means horn of the face paint, i.e., a cosmetic box, or as we might say Joy-face. In the Septuagint the word is Amalthea-Keras, meaning horn of plenty, and in that sense has reference to Job's gratitude for his prosperity.

KERENS, kĕr-ĕnz, **Richard C.,** Irish-American diplomat: b. Killberry, County Meath, Ireland, 1842; d. 4 Sept. 1916. He fought in the Union side throughout the American Civil War. Later he became contractor for the overland mail and interested in railroad construction. From 1892 he was a member of the Republican National Committee until he was appointed ambassador to Austria-Hungary in 1909.

KERENSKY, Alexander Feodorovitch, Russian revolutionary statesman: b. Tashkent, Central Asia, 1881. A lawyer and journalist by profession, a dvoryaneen or "gentleman" in social rank, his early life was a struggle for existence and education. He took a degree at the University of Saint Petersburg and practised in the courts as a "poor man's lawyer." His extreme socialistic and republican tendencies, his hatred of autocracy and strong sympathy with the masses prevented him from attracting clients among the higher range of society. Possessed of boundless ambition and a passionate flow of oratory, he turned to politics and became a member of the Duma. Those who know him best declare that his eloquence met with appreciative response only from the working classes. An object of suspicion, his footsteps were continually dogged by secret police; in the summer of 1915 the attention of the authorities was drawn to the "criminal activity" of Kerensky in inciting the workers to struggle for power and for a constituent assembly. For some unknown reason he was not arrested and sent to Siberia, as thousands of his kind had gone before him, and for much less transgression. The Russian revolution of March 1917 and the fall of the tsar — events for which he had long striven, brought Kerensky to the front. In the first provisional government he was made Minister of Justice. Prince Lvov, the Premier, announced that the Grand Duke Michael would be appointed regent. The Soviet, or Council of Workmen's and Soldiers' Delegates, at once demanded a republic, and for an hour or two it seemed as if the new government would disappear in the horrors of a commune. Kerensky saved the situation by breaking in upon the Soviet meeting and with a short speech led the assembly to pass a resolution in support of the provisional government by a majority of 1,000 to 15. "We shall have our republic," he told them, "but we must first win the war, and then we can do what we will." The meteoric rise of Kerensky to the supreme power in the empire, and his dramatic fall and disappearance, are fully recorded under RUSSIAN REVOLUTION (q.v.).

KERESAN, or QUERES (the aboriginal stock name), a group of Pueblo Indian tribes, in seven permanent villages on the Rio Grande and to the westward thereof, in New Mexico. They form the Queres, or Keresan, linguistic family, speaking a distinct stock language. The Indians claim to have had their origin at Shipapu, a mythic place in the north, from which they gradually drifted southward and occupied, still in prehistoric times, the Rito de los Frijoles, west of the Rio Grande, where they excavated the cavate lodges in the soft volcanic tufa cliffs still to be seen. These were abandoned before the coming of Coronado, in 1540, who found the Queres in seven pueblos (excluding Acoma and probably Sia) forming the province of "Quirix," along the Rio Grande. In 1630 they were reported by Fray Alonzo de Benavides to number 4,000, but this and other early estimates did not include Acoma. (See PUEBLO). The present queres pueblos are as follows:

Cochiti (native **Kotviti**).— On the west bank of the Rio Grande, 27 miles southwest of Santa Fé. In prehistoric times the natives of Cochiti and San Felipe formed one tribe, but on account of the hostility of the Tewas (see TANOAN FAMILY), they divided, the latter building a village near their present pueblo, the former settling in the Potrero Viejo, which they later abandoned, moving to near their present location, where they were found by Oñate in 1598. The Cochiti villagers were active participants in the Pueblo revolt of 1680, killing their missionary, but continuing to occupy their town. On learning of the approach of the Spaniards to reconquer their town a couple of years later, they fled, with the people of Santo Domingo and San Felipe, to the Potrero Viejo, where they remained almost uninterruptedly until 1692, when they were induced by Vargas to return to their homes. The Cochiti and Santo Domingo people again fled to the Potrero, however, where they were assaulted by Vargas in 1693 and severely defeated, 200 of their women being captured and their pueblo burned. Cochiti became the seat of the mission of San Buenaventura early in the 17th century. Of the 16 clans 4 are extinct.

San Felipe (native name **Katishtya**).— On the west bank of the Rio Grande, 12 miles above Bernalillo. Formerly combined with the people of Cochiti, but independently occupying the vicinity of the present site at least since 1540. It was the seat of one of the earliest missions of New Mexico, its first church being erected prior to 1607. The inhabitants participated with those of Cochiti and Santo Domingo in the great revolt of 1680, but aided Vargas in dislodging the Cochiteños from the Potrero Viejo in 1693. They had no resident missionary at the time of the revolt, but aided in murdering the priests of Cochiti and Santo Domingo. After leaving the Potrero in 1692 the San Felipe people built a new pueblo on a mesa northwest of their present town, where a church (the walls of which are still standing) was erected in 1694. This was abandoned early in the 18th century and the present pueblo established, the fourth to bear the name Katishtya. Of the 30 San Felipe clans 9 are extinct.

Santo Domingo (native name **Kiwa** or **Dyiwa**).— On the east bank of the Rio Grande, 18 miles above Bernalillo. In prehistoric times the inhabitants occupied successively the Potrero de la Cañada Quemada and two pueblos called Guipuy, in the latter of which, on the Rio Grande, they were found by Oñate in 1598. Like its predecessor, the second Guipuy, as well as Huashpatzena, the settlement which followed, was swept away by flood, and the present Santo Domingo had three similar but less severe disasters between its founding in 1692 and 1886, when a freshet destroyed its fine old church with carved doors bearing the Spanish coat of arms. At the time of the Pueblo rebellion of 1680, it was an important mission seat and the residence of the custodian of the province, who, with two other priests, were slain. The pueblo has 18 surviving clans.

Santa Ana (native name **Tamaya**).— On the northern bank of the Rio Jemez, a western tributary of the Rio Grande. Before the Spanish advent the inhabitants lived nearer the Rio Grande and in 1598 resided on a mesa between the present pueblo and San Felipe. They joined the San Felipe and Santo Domingo people in the great revolt, but in 1687 their village was carried by storm and burned, several of the natives perishing. The present town was built after 1692. It became a mission early in the 17th century, but had no resident missionary at the time of the rebellion. Santa Ana has 7 clans.

Sia (native **Tsia**).— On the north bank of Jemez River, 16 miles northwest of Bernalillo. It was formerly a pueblo of great importance, and in 1583 was said by Espejo to be the chief one of five towns forming the province of "Punames." It early became the seat of Nuestra Señora de la Asuncion. Its inhabitants made a most determined stand during the revolt of 1680, but in 1689 they were assaulted by the Spaniards, their pueblo wrecked, and the tribe decimated in the bloodiest engagement of the rebellion. Since this time the little tribe has been declining; Sia formerly had 37 clans, but of these only 16 survive.

Acoma (from **Akóme**, "People of the White Rock").— This pueblo and Laguna form the western division of the Queres stock. Acoma is picturesquely and strongly situated on a rock mesa, 357 feet high, about 60 miles west of the Rio Grande. It was first mentioned as "Acus" by Marcos de Niza in 1539 and visited by Coronado in 1540. Acoma has the distinction of being the oldest continuously occupied town in the United States. The natives treacherously killed several Spaniards of Oñate's force late in 1598, but in the following January the Spaniards led an expedition against the mesa, stormed and captured the town, killed about half the inhabitants, and burned some of the houses. Acoma became the seat of the mission of San Estevan in 1629; the natives murdered their missionary in the revolt of 1680, and remained in their fortified retreat until 1699, when they were induced to submit to the Spanish authorities. The present large adobe church, with its remarkable cemetery filled in with earth carried from the valley below, dates from the reconquest. In prehistoric times the Acomas lived on the summit of an even loftier mesa, known as Katzima, or the "Enchanted Mesa," three miles northeastward. According to tradition (verified by an examination of the summit and the surroundings of the mesa by F. W. Hodge in 1897), the only trail was washed away in a storm, leaving some of the inhabitants to perish; the village was henceforth abandoned. Population in 1680, 1,500; in 1760, 1,052; in 1902, 566. Of the 20 original clans 6 are now extinct.

Laguna (Span. "lagoon," from a lake formerly west of the pueblo; native name **Kawaik**).— The largest of the Queres towns, and the most recently established of all the southwestern pueblos, having been founded in 1697 by refugee Queres from other villages, particularly Acoma, as well as by Indians of other stocks. It is situated on the Santa Fé Pacific Railroad, 17 miles northeast of Acoma. The town is being gradually abandoned, many of its inhabitants having moved permanently to their eight farming villages to the north and west. The Lagunas are very intelligent, honest and industrious, and are largely in demand as railroad laborers. The mission name of Laguna is

San José, applied also to the rivulet on which the town is situated. The tribe has 20 clans. The total population of the Keresan Indians is between 4,000 and 5,000. (See PUEBLO INDIANS). Consult Goddard, P. E., 'Indians of the Southwest' (New York 1913).

F. W. HODGE,
Smithsonian Institution, Washington, D. C.

KERGUELEN (kėrg'ĕ-lĕn) **LAND,** or **DESOLATION ISLAND,** an island in the Indian Ocean, intersected by lat. 49° 3′ S., long. 68° 18′ E.; length about 100 miles; greatest breadth about 50 miles; area, about 2,500 square miles. It has a remarkably barren and desolate appearance, due to the fact that it consists of lofty masses of basalt and other volcanic rocks. These rise to the height of 2,500 feet, presenting numerous bold headlands and ranges of precipitous cliffs, and possessing a very scanty vegetation. The highest point, Mount Ross, is over 6,000 feet. Sea-fowl are numerous but no indigenous land animals exist on it. Its indentations furnish several bays and inlets affording good harbors. It was annexed by France in 1893, and some settlers have made their abode there at Port Jeanne d'Arc since 1907. Of the flora, which is arctic, the most noteworthy species is the Kerguelen cabbage (*Pringlea antiscorbutica*), a large edible plant, in many ways resembling common garden cabbage, and which has been valued on account of its antiscorbutic properties. The name of the island is derived from Kerguelen-Trémarec (q.v.), a Breton navigator who discovered it in 1772. Captain Cook (who named it Desolation Island) visited there in 1776, as also did the *Challenger* in 1874. There are some 300 smaller islands scattered around, and the waters abound in fish, whales and seals.

KERGUELEN-TRÉMAREC, kār'gĕ-lăñ-trā'mą'rĕk, **Yves Joseph de,** French explorer: b. Brittany, 1734; d. 1797. He served in the navy and in 1771 was sent in command of a corvette by the French government to explore a great continent that was supposed to lie southeast of Africa. He discovered Kerguelen island (q.v.), took possession in the name of France, and returned home with the news that he had found the "continent." His claim was discredited, though he was promoted as a reward by Louis XV. A second voyage in 1773–74 still failed to convince him that he had only found an island. Various charges were brought against him; he was court-martialed and imprisoned, but pardoned by the king and ordered to write an account of his explorations. Captain Cook explored the archipelago 1776–77 and dispelled the continental theory, which led the French government to order the destruction of the copies of Kerguelen's 'Relation de deux voyages dans les mers australes faits de 1770 à 1774', of which very few copies now exist. He wrote some other works and was made vice-admiral during the Revolution.

KERKI, kėr-kē, capital and province, in Bokhara, Central Asia. The city is over 100 miles southeast of Bokhara city. Kerki, which has Russian-built fortifications which, a few years ago, were considered very strong, is situated on the Russian frontier and constitutes a centre of caravan trade, several routes of which stretch out from it in different directions. Pop. 5,000.

KERKUK, kĕr-kook', a city in Mosul, Asiatic Turkey, 140 miles almost straight north of Bagdad. It is the centre of an important trade in petroleum and naphtha, the products of a neighboring oil region. Among the other industries are pottery-making, cotton goods and tanning; while its commerce includes fruit, timber, silk and hides. Tradition says that in the city is the tomb of Daniel the prophet. Pop. 23,000, nearly all of which are Kurds.

KERLÉREC, kār'lār'ĕk', **Louis Billouart, Chevalier de,** French sailor and colonial statesman: b. Quimper, France, 1704; d. in France, 1770. After serving in the French navy and making a brilliant record for himself he became governor of Louisiana in 1752. He strove to defend the colony from the English privateers, the assaults of the Indians and the intrigues of British agents up the Mississippi. He worked under great difficulties for the French king took no interest in his great American possession. On his return to France, Kerlérec was tried and found guilty of malfeasance in office, apparently unjustly. He appealed from the decision of the court but died before the case was decided.

KERMAN, or **KIRMAN,** Persia, province in the southern part, bounded on the north by Yezd and Khorasan, on the south by Baluchistan and Gulf of Oman, on the east by Seistan and Baluchistan and on the west by Fars. The northern part is largely covered by desert, while the south is a more or less mountainous region. Although the climate varies greatly because of the different elevations it is generally disagreeable and unhealthful. Cattle raising is extensive, also that of the well-known Kerman goats from whose soft hair is manufactured the beautiful shawls of the same name. The principal exports are shawls, carpets, cotton, silk, gum and dates. Area, 65,000 square miles. Pop. about 600,000. The capital Kerman, is located in a fertile region at an elevation of about 6,100 feet. Nearby are the ruins of two ancient forts; in many places the walls are still in perfect condition. Among others of less importance, the two mosques which deserve mention are Masjid i Malik, built in the 11th century, and Masjid i Jama, dating from about the middle of the 14th century. Pop. of city 60,000.

KERMANSHAH, or KIRMANSHAH, Persia, town, capital of the province of same name. It is situated on a small river at an altitude of 5,100 feet, about 250 miles southwest of Teheran. Formerly strongly fortified it is now practically an open town, and its location on the high road between Bagdad and Teheran greatly increases its commercial importance. It is noted for the manufacture of fine carpets, and also for its splendid horses. It has a very good trade in barley, wheat and fruit. Pop. about 40,000.

KERMES, the scarlet grain of Poland, cochineal, lac-lake, lac-dye, and all the modifications of gum-lac (see LAC) are either the perfect insects dried, or the secretions which they form. The first-mentioned substance is the *Coccus ilicis.* It is found in great abundance upon a species of evergreen oak (*Quercus coccifera*), which grows in many parts of Europe, and has been the basis of a crimson dye from the earliest ages of the arts. It was known to

the Phœnicians before the time of Moses; the Greeks used it under the name of *kokkos,* and the Arabians under that of *kermes.* From the Greek and Arabian terms, and from the Latin name *vermiculatum,* given to it when it was known to be the product of a worm, have been derived the 'Latin *coccineus,* the French *cramoisi* and *vermeil,* and the English "crimson" and "vermilion." The early Jews, the Greeks, the Romans, and until lately the tapestry-makers of Europe, have used it as the most brilliant red dye known. The scarlet grain of Poland (*Coccus polonicus*) is found on the roots of the *Scleranthus perennis,* which grows in large quantities in the northeast of Europe and in some parts of England. This, as well as several other species, which afford a similar red dye, have, however, fallen into disuse since the introduction of cochineal; and the introduction of aniline dyes has greatly injured the cochineal industry.

KERMES MINERAL, a name given to amorphous antimony trisulphide. The native antimony trisulphide occurs in well-developed orthorhombic prisms. When this compound is fused for some time, and suddenly thrown into cold water, its crystalline structure is entirely destroyed. Kermes is a brown-red powder, becoming blackish-gray when washed with boiling water. By fusion it may be obtained as a solid mass, but it is totally devoid of crystalline structure. See ANTIMONY.

KERMESS, kėr'mĕs, **KIRMESS,** or **KERMIS,** formerly a church festival held by the Dutch and in Flanders, and later in other parts of Europe, on the feast-day of the principal saint of a place or church. In the United States the word has come into general use for entertainments given for charitable purposes.

KERN, John Worth, American senator: b. Alto, Ind., 20 Dec. 1849; d. 17 Aug. 1917. Graduated in law from the University of Michigan (1869); he was city attorney for Kokomo (1871–84); reporter of the Indiana Supreme Court; member of Indiana State senate (1893–97); city solicitor of Indianapolis (1897–1901); candidate for governor of the State (1900 and 1904); vice-president (1908); senator (1911); and floorleader of the senate (1913).

KERN, kėrn, **Hendrick,** Dutch Oriental scholar and writer: b. Island of Java, 1833. Educated at Leyden and Berlin. He taught Latin in Maestricht Athenæum (1858–62) and from 1865 on has been professor at Leyden. Among his principal published writings are 'Handleiding bij het onderwijs der Nederlandsche taal' (1879–83); 'Cakuntata' (1862); 'Die Glossen in der 'Lex Salica und die Sprache der Salischen Franken' (1869); 'A Manual of Astronomy' (1874); 'Over de aartelling der zuidelijke Buddhisten' (1875); 'Geschiedenis van 'het Buddhisme in Indië' (1881–83); 'De Fidji-taal vergeleken mil hore verwanten in Indonesie en Polynesie' (1886); 'Manual of Indian Buddhism' (1896).

KERN LAKE, a body of water in Kern County, in the southern part of California; one of a small group of basins in the midst of an almost arid part of the State. Part of the year there is no apparent outlet, but at the period of high water the lake overflows into Kern River. The country around this lake and in the vicinity is noted for its large amount of game.

KERN RIVER, a stream in the southern part of California; almost its whole course is among the mountains of the southeast. The country in the vicinity is noted for game, and at one time valuable mining interests. In the western part of Kern County, the slough of the Kern River occupies an area of about 80 square miles. It flows into Tulare Lake. The valuable water power of this river furnishes electric light and power for the city of Los Angeles.

KERN RIVER SHOSHONEANS, a small body of Indians of the Shoshonean family in southern California, isolated from the parent stock. It is so linguistically different from the other members of this very extensive family of languages that it has been classed as a major division of the Shoshonean tongue. The few surviving members of this linguistic branch bear every evidence of having been long separated from the other linguistic groups of the common family. That they were strong enough to find their way to California would seem to indicate that they must have, at one time, been numerous and possessed of considerable military strength. It is still an unsettled question whether the Kern River Indians represent the furthest advance westward of the Shoshoneans; or are the remains of members of this latter family which once probably held possession of the coast lands of California as they did other vast tracts of the North American continent. The historic Kern River Shoshoneans consist of two tribes, dialectically very similar: The Tubatulabal who live in the valley of the Kern River above the falls, and the Bankalachi who occupy the upper stretches of Deer Creek.

KERNAHAN, Coulson, English novelist: b. Ilfracombe, Devonshire, 1 Aug. 1858. He was for many years literary adviser to Ward, Lock and Company, London. He has contributed criticisms, verses, essays and stories to numerous periodicals. Among his published works are 'A Dead Man's Diary'; 'A Book of Strange Sins'; 'Sorrow and Song'; 'God and the Ant'; 'The Child, the Wise Man and the Devil'; 'Captain Shannon'; 'Scoundrels and Co'; 'Wise Men and a Fool'; 'The Face Beyond the Door'; 'A World Without a Child'; 'The Jackal'; 'Visions'; 'The Dumpling'; 'The Red Peril'; 'An Author in the Territorials'; 'Dreams'; 'The Man of No Sorrows'; 'The Bow-Wow Book'; 'The Experience of a Recruiting Officer'; 'In Good Company'; 'Bed-time Stories.'

KERNER, kėr'nėr, **Justinius,** German poet: b. 1786; d. 1862. He belonged to the Schwabian school. He was at times morbid, fanciful, dreamy, sensitive and poetic and endowed with a strange, fantastic humor that gained him many admirers. He graduated in medicine and practised his profession in several towns of Germany. Among his popular works are 'Reiseschatten' (1811), and 'Die Seherin von Provost' (1829).

KERNSTOWN, Battle of. Gen. "Stonewall" Jackson abandoned Winchester, Va., 11 March 1862 and retreated up the Shenandoah Valley, followed by Shields' Union division

beyond Strasburg. Shields was recalled to Winchester on the 20th, and Jackson followed him, his advance cavalry under Turner Ashby engaging Shields on the afternoon of the 22d, near Kernstown, in which Shields received a severe shell-wound. Jackson came up on the afternoon of the 23d and, being informed that Williams' division of Banks' corps had left Winchester and was moving through the Blue Ridge for Manassas Junction, and that Shields had but four regiments in his front, determined to crush these and thus recall Williams and detain him in the valley. Shields had nearly 8,000 infantry and cavalry and 23 guns, two of his brigades on a ridge covering the road half a mile north of Kernstown, both under command of Col. N. Kimball. Jackson had about 3,000 infantry and 27 guns. Kimball was too well posted to be attacked in front, so leaving Ashby with the cavalry and a small brigade of infantry to hold the road and threaten Kimball's centre and left, Jackson seized a low ridge on Kimball's right, and placed on it his artillery and infantry. Tyler's brigade, which had been held in reserve, was brought up and made unsuccessful efforts to dislodge him, upon which Kimball, drawing from his left and centre, formed a column of seven regiments and, under a terrific fire of artillery and musketry, led it forward, came up on Tyler's leff and after a fierce combat broke Jackson's line. Kimball pressed his advantage, and as night closed in, Jackson was in full retreat, leaving his dead and wounded and two guns on the field of his first defeat. He said that he considered the engagement "a fiercer fight during its continuance than any portion of the battle of Manassas." The Union loss was 118 killed, 450 wounded, and 22 missing; the Confederate loss, 80 killed, 375 wounded and 263 missing. Consult 'Official Records' (Vol. XII); Allan, 'Jackson's Valley Campaign'; The Century Company's 'Battles and Leaders of the Civil War' (Vol. II).

KERNSTOWN (Winchester), **Second Battle of.** On 22 July 1864 General Crook, with four small divisions of infantry and cavalry, joined General Averell's cavalry division at Winchester, Va., Crook assuming chief command of the united force of 11,000 men. On the 23d Crook advanced four miles south to Kernstown and skirmished with Confederate cavalry, and on the 24th went into position on the same ground held by the Union troops in the battle of 23 March 1862. The infantry divisions of Colonels Thoburn, Duval and Mulligan covered the valley pike, with the cavalry of Duffié and Averell on either flank. Upon the approach of the enemy Averell was sent down the Front Royal road to turn his right. General Early, who, after his raid on Washington, had recrossed the Potomac and taken position beyond Cedar Creek on the 21st, hearing of Crook's advance, put all his army in motion on the morning of the 24th to attack him. At Bartonsville Ramseur's division moved by a road to get around Crook's right, while the divisions of Gordon, Rodes, Breckinridge and Wharton moved along the valley pike and on either side of it. The cavalry was divided and moved in two columns, one on the right along the Front Royal and Winchester road, the other on the left and west of Winchester, the two to unite in rear of Winchester and cut off Crook's retreat. At 10 A.M. Crook's skirmishers were driven in, and it was discovered that his left extended through Kernstown, and that Averell having left, that flank was exposed; whereupon Wharton's division was moved under cover of some ravines on the right to attack it. The movement was promptly executed, and Wharton struck the left flank and rear of Col. Rutherford B. Hayes' command as it was advancing and threw its left into some confusion. Hayes changed front and, forming behind a stone fence, held Wharton in temporary check. Almost simultaneously with Wharton's flank attack, Rodes, Gordon and Ramseur advanced on Crook's centre and right, and the entire line gave way and retreated through Winchester, followed by Early's infantry and artillery beyond Winchester, and by Rodes' division as far as Stephenson's Depot. The retreat was continued on the 25th through Martinsburg to the Potomac, Crook crossing at Williamsport and marching down the north side of the river to Maryland Heights and Harper's Ferry. Early occupied Martinsburg and began the destruction of the Baltimore and Ohio Railroad. The Union loss, 23–26 July, was 100 killed, 606 wounded and 479 missing. Among the mortally wounded was Colonel Mulligan, commanding division. The Confederate loss is not accurately known, but it was comparatively light. Consult 'Official Records' (Vol. XXXVII); Pond, 'The Shenandoah Valley in 1864'; The Century Company's 'Battles and Leaders of the Civil War' (Vol. IV).

KEROSENE, an illuminating oil; the principal product of the distillation of petroleum, the crude domestic oil yielding 70 per cent of its weight. The oil is colorless, possessing a characteristic taste and smell; insoluble in water, moderately soluble in alcohol, but very soluble in either, chloroform and benzene. It dissolves camphor, iodine, phosphorus, sulphur, fats, wax and many resins. The flashing point of a safe kerosene should not be less than 34° and the igniting point 43°. The finest quality of illuminating oil is produced from distillate, ranging in specific gravity from 0.775 to 0.780. It has a high flashing point, 48° to 60°, and contains none of the lighter parts of the crude oil. A good illuminating oil should neither be too viscous nor too volatile, and it should not take fire when a light is applied to it. See OIL; PETROLEUM.

KERR, Alfred, German critic and publicist: b. Breslau, 25 Dec. 1867, living at Berlin, contributes to the ultra-modernist publications (*Neue deutsche Rundschau,* and others). His works are 'Hermann Sudermann' (1903); 'Das neue Drama' (1904); 'Schauspielkunst' (1904).

KERR, kēr, **Michael Crawford,** American politician: b. Titusville, Pa., 15 March 1827; d. Rockbridge, Alum Springs, Va., 17 Aug. 1876. He was graduated from the law school of Louisville University in 1851. The next year he moved to New Albany, Ind., and began the practice of his profession; in 1854 he was city attorney, and in 1855 prosecuting attorney for the county. In 1856 he was elected to the State legislature; in 1862 he was reporter for the Supreme Court of Indiana, and published five volumes of reports of unusual value. In 1864 he was elected to Congress as a War

Democrat, and served till 1872. In that year he refused the nomination from his own district, but ran as congressman-at-large, and was defeated by a very small majority; in 1874 he was re-elected to Congress in spite of much opposition, and was made speaker on the organization of the House. He served, however, only during the first session of that Congress (the 44th), as he died four days after its adjournment. While a member of the House he served on several important committees, including the committee on ways and means; he opposed the reconstruction policy of the Republican party and was an advocate of free trade. He was also a close student of financial problems, favored the resumption of specie payment, and was strongly against the Greenback movement in regard to which he opposed a large part of his constituency and many of the politicians of his State.

KERR, Orpheus C. See NEWELL, ROBERT HENRY.

KERR, Washington Caruthers, geologist: b. Guilford County, N. C., 1827; d. 1885. Educated at the university of his native State, he became computer in the office of the *National Almanac* at Cambridge, Mass. (1850); and five years later he was appointed professor of geology, mineralogy and chemistry in Davidson College, North Carolina. Serving through the Civil War on the Southern side, he became, after the war, a member of the United States Geological Survey (1882–83). Among his published works are 'Report of the Geological Survey of North Carolina' (2 vols., 1875–81); 'Report on the Cotton Production of Virginia' (1884); 'Ores of North Carolina' (1888).

KERRIL, a sea-snake (*Distira cyanocincta*), olive with blue-black bands, numerous along the coasts from Persia to Japan, and considered one of the most venomous of its race. See SEA-SNAKE.

KERRVILLE, kĕr'vĭl, Texas, town, county-seat of Kerr County; on the Guadalupe River, and on a branch of the San Antonio and Aransas Pass Railroad. It is the seat of the Kerrville Sanitarium and the Schofield School for Girls. It is situated in an excellent agricultural region in which cotton cultivation and sheep raising are the principal occupations. The altitude of the town is about 1,800 feet, which accounts for its agreeable climate. The chief industrial establishments are stockyards, flour-mills, cotton gins and, in the vicinity, stone quarries. The town has considerable trade in lumber, cotton, hides, live stock, and is one of the principal wool markets of the State. Pop. 1,843.

KERRY, a county in Munster, Ireland, lying between the Atlantic Ocean on the west and the mouth of the Shannon on the north. It is noted for its beautiful mountain scenery and the far-famed Lakes of Killarney. The county is, for the most part, rugged and inclined to be wild; and the mountains there rise to the highest elevation attained in Ireland, in the peak of Carran Tual. The chief products of Kerry are cattle, butter, oats and fish. The county town is Tralee; and the other places of importance are Killarney, Listowel, Cahersiveen and Kenmare. Area, 1,811 square miles. Pop. about 160,000.

KERSAINT, kĕr'săn', **Armand Guy Simon de Contemperen,** COUNT OF, French naval officer: b. Paris, 29 July 1742; executed 4 Dec. 1793. Following the family traditions he early entered the navy (1755) and was rapidly promoted. Though of noble birth he sided with the party of progress, and became one of the noted figures of the Revolution. Made vice-admiral in 1793 he attempted to effect far-reaching reforms in the navy, which were balked by the excesses of the Revolution culminating in the mock trial and execution of the king. Against these acts Kersaint protested vigorously, with the only result that he himself suffered the same fate as his late sovereign.

KERSEY, kĕr'ze, a village in Suffolk, England, noted for its trade in woolen goods. The name "kersey" is also given to a light woolen cloth, which is looked upon as characteristic of the town. This cloth is most carefully finished; and this results in giving it a smooth surface and soft touch.

KERSHAW, Joseph Brevard, American soldier: b. Camden, S. C., 5 Jan. 1822; d. there, 13 April 1894. He entered the Confederate army at the outbreak of the Civil War, and as brigadier-general commanded a brigade in the Peninsular campaign of 1862. He took part in the capture of Harper's Ferry, 15 Sept. 1862, and was active at Antietam, Fredericksburg, Chancellorsville, Gettysburg and Chickamauga. After the war he became president of the South Carolina Senate, and was judge of the 5th circuit of South Carolina, 1877–93.

KERTBÉNY, kĭrt'bā-nĕ, **Karl Maria,** Hungarian writer: b. Pest, 1842; d. 1882. Many of his works are laborious and almost purely bibliographical and hence useful, but not of a distinctly literary character. He also translated into German the works of several Hungarian poets. His distinctively original work is found in his essays and literary criticism.

KERTCH, kĕrch, a Russian seaport in the Crimea, at the farthest eastern point. The town itself is old, dating to the first centuries of the Christian era; but it is built upon the site of a prehistoric city, the ancient mounds of which are still standing close by. Near by there are also some old catacombs the walls of which are covered with inscriptions of an early date. The Church of Saint John the Baptist which dates back to the year 717, shows strongly the Byzantine influence in its architecture. Kertch is a place of some commercial and industrial importance. This is due to its favorable situation between the Azov and the Black Seas, which makes it one of the important carrying ports of the South of Russia. It handles iron, grain, wool, hides, fish, oil and fruit (dried, and in its natural state), in addition to its own manufactured products, the most important of which are flour, lumber, lime, beer, tobacco, soap, candles, cement and leather. The history of Kertch merges into that of Panticapæum, an ancient city which, in its later days, became the capital of the kingdom of the Bosporus. The Tartars captured it in the 13th century; and it fell into the hands of the Genoese in the following century. By the latter it was called Cerchio. Hence its modern name, slightly modified by the Turks, who came into possession of the city the following cen-

tury, only to yield it to the Russians in 1773. Kertch, owing to its situation, naturally suffered severely during the Crimean War (1854–55) at the end of which it was practically in ruins. It has been since rebuilt on much more modern lines than those of the destroyed city. Pop. 60,000.

KERVYN DE LETTEN HOVE, kĕr văn' de lĕt'tĕn ho'vĕ, **Joseph Marie Bruno Constantin,** Belgian historian: b. Saint Michel, Flanders, 1817; d. 1891. He was Minister of Public Instruction (1870–71), a careful, intelligent and laborious antiquarian and an authority, in his field, on matters relating to his native country. Among his published works are 'Histoire de la Flandre' (1847–50); 'Jacques d'Artevelde' (1863); 'Histoire et chroniques de Flandres' (1879–80); 'Relations politiques des Pays-Bas et de l'Angleterre' (1882–87); 'Les Huguenots et les gueux' (1883–86); 'Marie Stuart' (1889); and numerous translations and edited volumes.

KESSEL, VAN, the family name of a number of notable Flemish painters, the first of whom was Jeroom van Kessel. They covered a period from the beginning of the 17th century to the middle of the 18th and collectively entered almost every department of painting. For the members of this family see the biographies given under the family name, which follow.

KESSEL, Ferdinand van, Flemish painter: b. Antwerp, 1648; d. 1696. He was a son of Jan van Kessel the Elder and a pupil of his father, whose style and mannerisms he followed. He was a favorite of King John Sobieski of Poland who encouraged him to step beyond the bounds which his father had set for himself and to paint larger historical scenes. For this enlightened ruler he painted two large pictures entitled 'The Four Elements' and 'The Four Continents' which pleased the sovereign greatly. These were destroyed by fire; and Kessel repainted them, according to the judgment of his contemporaries, on a larger and better scale. He also did decorative work for palaces and churches; and a good sample of this work was done in the palace of King William III at Breda where he went to live in 1688.

KESSEL, Jan Van, THE ELDER, Flemish painter: b. Antwerp, 1626; d. 1679. He was a son of Jeroom Van Kessel (q.v.) and a pupil of his father, his grandfather, Simon de Vos and Jan Breughel and studied in Madrid, where he was highly esteemed as a painter of landscapes, flowers, fruits and animals. He displayed much of the talent of his father and his grandfather, qualities which he transmitted to his son Jan the Younger (q.v.). Considerable of his work still exists. The Madrid Museum possesses 'A Garland' (in one of his and Van Thuden's pictures) and some 40 other pictures. Among his other works are 'Concert of Birds' (Antwerp Museum); 'Fight between a Bear and a Snake,' 'Birds Set in a Landscape,' 'Boar-hunt,' 'Fable of Stork and Fox' (Vienna Museum). But these are only a few of his many pictures which are to be found in many art galleries, among them those of Paris, Florence, The Hague, Stockholm, Nuremberg, Stuttgart, Berlin, Austria and Brunswick.

KESSEL, Jan Van, THE LATER, a Flemish painter, supposed to belong to the famous Van Kessel family of painters: b. Amsterdam, about 1641; d. 1690. He seems to have been a pupil of Jacob Ruysdael and Hobbema; at any rate he followed their style of painting. He was looked upon as one of the best landscape painters of his day. Of his surviving works there are canvases in many of the galleries of Holland and Germany, among them Munich, Darmstadt, Amsterdam, Antwerp and Rotterdam.

KESSEL, Jan Van, THE YOUNGER, a son and pupil of Jan Van Kessel, the Elder, whom he accompanied to Spain: b. 1654; d. 1708. In Spain father and son seem to have worked together. Jan the Younger, however, seems to have prospered better than the Elder. In six years after his arrival in Madrid he had become court painter to Charles II. He was very popular as a portrait painter and he had the patronage of the court nobility. He followed his father's methods in other lines of painting all of which he did. Like his brother Ferdinand, he also successfully attempted large historical scenes. Owing to the fact that most of his attention was given to portrait painting, there are not so many survivals of his work as there are of his father's (Jan, the Elder), or of his grandfather's (Jeroom Van Kessel); and as most of his active life was spent in Madrid, nearly all of his work remained in Spain. Among his notable works are portrait of Philip IV (Madrid Museum); 'Psyche Surrounded by Wild Animals,' 'Psyche and Cupid' (Alcazar, Madrid).

KESSEL, Jeroom Van, a noted Flemish painter and the founder of the famous Van Kessel family of painters: b. Antwerp, 1578; d. about 1636. He was the most distinguished pupil of Cornelis Floris; and was the son-in-law of Jan Breughel, the famous landscape painter. Kessel worked considerable in collaboration with his father-in-law into whose landscapes he is said to have infused more animation by introducing animals and other figures. He traveled about Germany and the Low Countries painting portraits in various large cities, such as Frankfort, Cologne and Strassburg. He also gained a reputation as a painter of still life and animals. His chief wanderings seem to have begun when he was about 28 and to have lasted some 12 years. After this he probably made his home in Antwerp.

KESSEL, Theodorus Van, Dutch painter, engraver and etcher: b. probably in Holland, about 1620. The date of his death is uncertain. He went to Antwerp in 1652, where he became noted as an etcher of the great masters, especially those of the Low Countries. Van Dyck, Titian, Rubens and Guido Reni were among the painters whose works he reproduced. Copies of his etchings are still held in high esteem.

KESTER, Paul, American dramatist: b. Delaware, Ohio, 1870. He is a brother of Vaughan Kester. He has been active in prose and verse; but his greatest success has been in the dramatic field. Among his published works are 'His Own Country'; 'Tales of the Real Gypsy'; and the following plays: 'The Countess Roudine' (with Minnie Maddern Fiske); 'Zamar'; 'What Dreams May Come'; 'The

Cousin of the Ring' (with Vaughan Kester); 'Eugene Aram'; 'Sweet Nell of Old Drury'; 'When Knighthood was in Flower'; 'Mademoiselle Mars'; 'The Cavalier' (with George Middleton); 'Friend Hannah'; 'Don Quixote'; 'The Bill Toppers'; 'The Lady in the Castle'; 'Beverly's Balance'; 'The Tragedy of Edith Cavell.'

KESTER, Vaughan, American novelist: b. New Brunswick, N. J., 1869; d. 1911. He devoted his life to literary work. Much of his best work was contributed to the *Cosmopolitan Magazine* on whose staff he was for some considerable time. Among his more serious published works are 'The Prodigal Judge'; 'The Manager of the B. and A.'; 'The Fortunes of the Landrays'; 'John o'Jamestown'; 'The Just and the Unjust'; 'The Hand of the Mighty.' In the latter, which was published after his death, is a biographical sketch of the author by his brother, Paul Kester.

KESTREL, one of the smaller of the European falcons (*Tinnunculus alaudarius*), resembling the sparrow-hawk, and formerly much used in falconry by the peasantry. The American sparrow-hawk and sharpshin (qq.v.) may be called kestrels.

KESWICK MOVEMENT, The. In 1874 Canon Harford-Battersby attended a conferenc at Oxford and there passed through a deep spiritual experience. On his return to his parish, Saint John's, Keswick, he was very desirous that his people should have the same experience. So the first Keswick Convention was called by the vicar and his helper, Mr. Robert Wilson, in the year 1875. Its title was "Convention for the Promotion of Practical Holiness." Its purpose was "to help men to be holy." The following directions were given to those coming to the convention:

1. Come waiting on the Lord, desiring and expecting blessing to your own soul individually.
2. Be ready to learn whatever God may teach you by His word, however opposed to human prejudices and traditions.
3. Heartily renounce all known evil and even doubtful things (" not of faith ").
4. Lay aside for the time all reading except the Bible.
5. Avoid conversation which has a tendency to divert your mind from the object of the meetings. Do not dispute with any, but rather pray with those who differ from you.
6. Eat moderately, dress simply, retire to rest early.

The convention became an annual affair attended by hundreds of people. The meetings were held in two tents each having a capacity of 2,250. Many subjects were discussed such as 'The Renunciation of Evil,' 'Holiness by Faith,' 'Heart Obedience,' etc. Canon Battersby died in 1883, but the work has been continued. The movement has been productive of considerable devotional literature by such writers as F. B. Meyer, W. H. A. Hay Aitkin, Bishop H. C. G. Moule, Andrew Murray, Hubert Brook, J. Stuart Holden, Arthur T. Pierson and G. H. C. Macgregor.

At the Keswick Convention of 1891, those present from Scotland decided to hold a like meeting in their own land. As a result, for many years, beginning with 1892, an annual meeting has been held at Bridge-of-Allan. It was called "The Scottish National Christian Convention for the Deepening of Spiritual Life." The movement is world-wide and of great influence in Christian circles. Consult Harford, Charles F., 'The Keswick Convention: Its Message, Its Methods and Its Men' (1907), also Macfarlane, 'Scotland's Keswick; Sketches and Reminiscences' (1917).

KETCH, a vessel equipped with two masts, namely, the mainmast and the mizzenmast, and usually from 100 to 250 tons burden. Ketches were principally used in former times as yachts for conveying princes of the blood, ambassadors or other great personages from one place to another. Ketches in use at the present day are chiefly coasters.

KETCHAM, William Henry, American missionary: b. Sumner, Iowa, 1 June 1868. He was educated at Saint Charles College, Grand Coteau, La., and the Seminary of Mount Saint Mary's of the West, Cincinnati, Ohio. In 1885 he became a Roman Catholic, and was ordained a priest in 1892. Until 1897 he was missionary to Creek and Cherokee Indians and other tribes in and about Muskogee, I. T. From 1897 to 1900 he was missionary to the Choctaws at Antlers, I. T., and in the latter year was appointed assistant in the Catholic Bureau of Indian Missions, Washington, of which he was made director in 1901. Since 1913 he has served as United States Indian Commissioner. During his sojourn in the Indian Territory, he founded many schools and churches and converted many Indians to the Christian faith. He helped heal the breach between the government authorities and the Catholic Indian Bureau, and secured the abolition of the rule forbidding Catholic Indian children in government schools from attending Catholic religious services. He founded the *Indian Sentinel* and in 1908 was delegate to the First American Missionary Congress at Chicago. In the same year and again in 1910 he attended the Lake Mohonk conferences of Friends of the Indian.

KETONES, kē'tōnz. See ACETONE.

KETTELER, kĕt'tĕl-ĕr, **Clemens August,** BARON VON, German diplomat: b. Potsdam, 1853; d. Peking, 20 June 1900. He served for a time in the army, but entered the diplomatic service, in 1882 as attaché at Peking drew up the first treaty between Germany and Korea, in 1883 was appointed acting consul at Canton, in 1892 became secretary of the German legation at Washington, and when in 1893 the legation was made an embassy was appointed first secretary to the embassy and councillor of state. In 1896 he became Minister to Mexico, in 1899 Minister to China. In 1900, at the time of the "Boxer" disturbance in northern China, he was selected, owing to his familiarity with the Chinese language, to represent the foreign diplomats in their communications with the government. While on such a mission he was shot in the street. Prince Chun, brother of the emperor, was sent to Germany to apologize for the murder, and 18 Jan. 1903 a memorial arch, set up at the expense of the Chinese government, was dedicated at Peking.

KETTELER, Wilhelm Emanuel, BARON VON, German ecclesiastical leader: b. Münster, Prussia, 1811; d. 1877. Graduating in law after studies at Göttingen, Berlin, Munich and Heidelberg, he entered the civil service at Münster. This be soon left to study for the priesthood in the Catholic Church. Ordained in 1844, he became, through his talents and

his family connections, Bishop of Mainz in 1850. He at once became the champion of the Catholic Church whose power and freedom from State control in Germany he labored to build up. He was, therefore, constantly in opposition to the policies of the Chancellor and the royal family, a position he maintained to his death. Among his published works are 'Freiheit, Autorität und Kirche'; 'Die wahren Grundlagen des religiösens Friedens'; 'Des allgemeine Konzil und seine Bedeutung für unsere zeit'; 'Der Kulturkampf gegen die katolische Kirche'; 'Die Katoliken im Deutschen Reiche.' His works are still read in Catholic circles in Germany, where von Ketteler is looked upon as the greatest of modern German champions of the Church.

KETTENBERG, kĕt'tĕn-bĕrg, **Susanne Katharine von,** German essayist and poet: b. Frankfort, 1723; d. 1774. She was a strong Pietist and her religious tendencies are reflected in her essays and poems, which are generally of a religious cast even when they are not distinctly religious. She was also strongly mystical, as were many people of religious attitude in Protestant circles in her day, and she had a love of alchemistic studies to which she devoted considerable time and investigation. A close friend of Goethe's mother, she exercised a strong influence over the youthful poet, who had an ardent admiration for her which is clearly painted in 'Bekenntnisse einer schonen Seele' (in 'Wilhelm Meisters Lehrjahre'). Through Goethe she afterward became acquainted with people notable in the literary life of her time, among them Lavater, who came to admire her very much. Consult Dechent, 'Goethe's Schone Seele' (Gotha 1896), and Delitzsch, 'Philemon, oder von der christlichen Freundschaft,' which contains a number of her religious essays and songs.

KETTERING, city in Northamptonshire, England. It is a place of considerable importance on account of its manufacturing interest, among which are iron ore mines and stone quarries, shoe, agricultural tool and brush factories and the making of clothes. It has some good modern buildings, an old church tower dating back to 1450 and excellent municipal edifices.

KETTLE DRUM, a musical instrument, formed of thin copper and has a head of parchment or vellum. Kettle drums are used in pairs, slung on each side of the withers of a cavalry horse. One drum is tuned to the key note and the other to the fifth of the key in which the piece in which they are to be used is written. The tuning is by a hoop and screws. Also a name for a tea party held by fashionable people in the afternoon before dinner.

KETTLE HOLE, a pit or depression in a glacial outwash or morainic plain. These kettles are often occupied by small lakes. They may be merely depressions due to unequal deposition, but are more often caused by the melting of buried blocks of ice.

KETT'S REBELLION, an uprising in England under the leadership of the Kett brothers, in 1549. William and Robert Kett, landowners of Wymondham, Norfolk, were men of considerable influence in their own neighborhood. The people of the district rose in arms against the enclosure of common land and the eviction of tenants therefrom. Robert Ketts, lord of the manor of Wymondham, was induced to join them as their leader; and with him went his three brothers. He soon had at his command 16,000 men under excellent discipline. This force proceeded to petition the Privy Council in London, stating respectfully but fully their grievances. The answer of the government was to send against the insurgents a strong force under the Earl of Warwick. In the meantime Kett had captured Norfolk (1 Aug. 1549). But he was finally defeated at Dussindale, a bloody battle in which both sides suffered heavily. The government forces won the day with the help of German troops provided with firearms which gave them a great superiority over the peasantry provided only with longbows and cross-bows. In the battle 3,500 of the insurgents perished and many more met death on the scaffold. Among them the two Kett brothers. Consult Clayton, 'Robert Kett and the Norfolk Rising' (London 1912); Russel, 'Kett's Rebellion' (London 1850).

KETUPA, the generic and vernacular name of a group of the large owls of the East Indies, specifically the Javan one (*K. javanensis*), which subsist mainly on fish, crabs and the like, which they are expert in catching along the shores of sea and rivers. Their legs and talons are long and not feathered.

KEUKA (kē-u'kạ) **LAKE,** or **CROOKED LAKE,** a body of water in New York State extending from Steuben County to Yates County, a distance of 20 miles. It is about two miles wide and of irregular form. It has a depth of 200 feet and lies 718 feet above the sea. Steamboats navigate the lake in summer between Hammondsport and Penn Yan. The waters flow eastward to Seneca Lake.

KEUPER, koi'pĕr, a red sandy clay, in its primary signification, and in its secondary, the topmost division of the Triassic system (in Europe). In Germany it is about 1,000 feet in depth while in England it is 3,000. Throughout it are found bones of animal and other geological deposits. In both Germany and England the chief factors in the Keuper are marl, sandstone and gypsum.

KEW, kū, England, a village in the county of Surrey, six miles from Hyde Park Corner, on the right bank of the Thames, opposite Brentford, with which it is connected by a bridge. The royal botanic gardens and the connected pleasure grounds, the former covering about 75 acres, the latter 250, are the chief attraction of visitors to Kew. They contain the finest collection of plants in the world, and are decorated with various ornamental buildings, including a Chinese pagoda 163 feet high. The botanical constructions here are really magnificent, are of great extent, and have been much augmented in recent years. Kew Palace is close by the northern entrance. Gainsborough, the celebrated artist, is buried in Kew churchyard.

KEW OBSERVATORY, a celebrated astronomical structure in Richmond Park, between Kew and Richmond, Surrey, England. It was built by George III as a private enterprise for the observation of the transit of Venus in 1769 and was then called the King's Observatory. It was transferred to the British Asso-

ciation as a physical observatory in 1841, and given its present name. In 1871 it was placed under the control of the Royal Society.

KEWANEE, ke-wā'nē, Ill., city in Henry County; on the Chicago, Burlington and Quincy Railroad; about 100 miles north by west of Springfield and 131 miles southwest of Chicago, on the Cannon Ball Trail. Kewanee is situated in an agricultural region, and coal fields are in the vicinity. The chief manufactures are valves, fittings, boilers, tanks, radiators, gloves, mittens, pumps, agricultural implements, water supply systems, private electric-lighting plants, seed corn hangers, live stock supplies, steel coal chutes, brooms, core making machines. The tube and boiler works employ about 4,000 men. The public library has about 10,000 volumes. Among hotel accommodations is a modern structure erected at a cost of $100,000. The commission form of government is in operation. The city owns and operates the waterworks. Pop. 17,000.

KEWATIN. See KEEWATIN.

KEWAUNEE, kẹ-wâ'nē, Wis., city, county-seat of Kewaunee County; on Lake Michigan at the mouth of the Kewaunee River, and on the Kewaunee, Green Bay and Western Railroad. The first permanent settlement was made in 1850, and the city received its charter in 1882. It is situated in a fertile agricultural and dairying centre. Its chief industrial establishments are foundries, machine-shops, agricultural implement works, pea-canning works and coffin factory. The city owns the electric-lighting plant. Pop. 1,900.

KEWEENAW (kē'wẹ-nâ) **BAY,** an arm of Lake Superior, north of Michigan. It is eight miles long, by two to six miles in width. The town of Baraga lies at the head of the bay.

KEWEENAWAN (kē'wẹ-nâ-ạn) **SERIES,** a great series of rocks, believed to be of Pre-Cambrian age, typically developed on Keweenaw Point, Mich., but found over a large area in Michigan, Wisconsin and Minnesota. Rocks of the same age occur also in Canada, and possibly in the Adirondack Mountains in New York. They constitute the upper series of the Algonkian system. The series on Keweenaw Point and southward has a maximum thickness of perhaps 50,000 feet; the lower part consists mostly of thick sheets of lava and intrusive rocks with some sandstone and conglomerate; the upper part is a mass of sedimentary rocks. In the series occur the famous Lake Superior copper deposits. See GEOLOGY.

KEY, SIR **Astley Cooper,** British admiral: b. London, 1821; d. 1888. After varied service in the British navy, in South American waters, the Baltic and China, he became director of naval ordnance in 1866, and 12 years later president of the Royal Naval College at Greenwich, which he had organized. The following year he was knighted and raised to the rank of vice-admiral and to full admiral in 1878 after having been commander-in-chief on the North American and West Indian stations. He had been steadily working to increase the efficiency of the British navy which owes very much to his well-directed and sustained efforts. In 1882 in recognition of his services he was made senior naval lord of the Admiralty.

KEY, David McKendree, American jurist and cabinet officer: b. Greene County, Tenn., 27 Jan. 1824; d. Chattanooga, Tenn., 3 Feb. 1900. After studying law he was admitted to the bar in 1849, and in 1853 took up his residence in Tennessee, establishing a successful law practice at Chattanooga. After vainly attempting to prevent the secession of Tennessee, when once that step was taken he joined the Confederate army and served through the war, but at its close joined the Republican party, succeeded Andrew Johnson in the United States Senate (1875); in 1877 was made postmaster-general; and in 1880 was appointed United States district judge for the Eastern and Middle Districts of Tennessee, a position he held till 1894.

KEY, kī, Ellen (Karolina Sofia), Swedish social writer: b. Sundsholm, 1849; of a family well connected and of a line of semi-noble ancestors. At the age of 20 she became secretary to her father who was then a prominent member of the Riksdag. About this time she became noted as a contributor to the magazines and periodicals of her native country, dealing with literary, historical and later sociological subjects. She was forced to teach in a private school when her father lost his fortune but this did not prevent her lecturing and continuing her magazine and newspaper writing which was yearly increasing her reputation. The sale of her writings soon permitted her to give up teaching and to travel and lecture in foreign countries. She was a very advanced thinker and so she became a storm centre between 1890 and 1910. Bitterly assailed by her opponents she was admired and supported and read by every one, with the result that her books have been translated into most of the languages of Europe. Among her publications, all of which have appeared in English, are the following: 'The Century of the Child' (1909); 'Love and Ethics' (1911); 'Rahel Varnhagen' (1913); 'The Renaissance of Motherhood' (1914); 'The Younger Generation' (1914); 'The Misuse of Woman's Power'; 'Woman's Psychology and Woman's Logic'; 'Life Lines.' Consult for her life and ideals her own work cited above, 'Rahel Varnhagen,' and Hamilton, L. N., 'Ellen Key: Her Life and her Work' (New York 1913).

KEY, Francis Scott, American lawyer and song writer: b. Frederick County, Md., 9 Aug. 1780; d. Baltimore, 11 Jan. 1843. He was educated at Saint John's College, Annapolis, and commenced to practise law in Frederick City. Subsequently he removed to Washington, where he was for many years district attorney of the District of Columbia. As a song writer he is chiefly known by his 'Star-Spangled Banner,' a popular national lyric, suggested and partially written while the author was detained in the British fleet during the bombardment of Fort McHenry, near Baltimore, of which he was an anxious and interested witness. A posthumous collection of his miscellaneous poems was published in 1856. Consult Key-Smith, F. S., 'Francis S. Key' (Washington 1911). See STAR-SPANGLED BANNER.

KEY, in heraldry, a heraldic bearing used in eccesiastical connections. The idea of its use originally seems to be that the places bearing it were under the protection of Saint Peter, the

traditional bearer of the keys of heaven. It seems probable that the use of the key grew out of that of the official insigniæ of some one of the ancient heathen deities; and this view is borne out by the many peculiarly heathen legends and superstitions connected with the key, among others, the one already cited, that Saint Peter is the bearer of the keys of the gate of heaven. See HERALDRY.

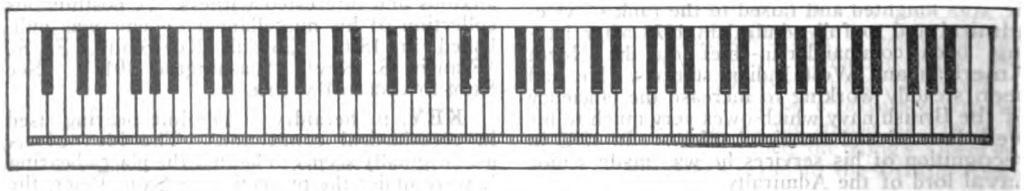
KEY, *in music:* (1) A mechanical contrivance for closing or opening ventages, as in flutes, clarinets, ophicleides, etc. By means of keys on such instruments, apertures too remote to be reached by the outstretched fingers are brought under control of the player. (2) A lever which brings the pallets of an organ under the control of the hand or foot of an organist. (3) A lever which controls the striking apparatus of a key-stringed instrument. In the harpsichord it acted on the jack; in the pianoforte it acts on the hammer. (4) The wrest or key used for tuning instruments having metal pegs. Its end is hollowed out so as to fit over the four-sided end of the peg, and the cross-bar with which it is surmounted gives leverage to the hand of the tuner, so that he is enabled to tighten or loosen a string, or (in the case of a drum) slacken or strain a parchment. (5) The sign placed at the commencement of the musical stave which shows the pitch of the notes, was originally called a clavis or key. This sign is called in modern music a clef. (6) Key, in its modern sense, is the starting point of the definite series of sounds which form the recognized scale. Different starting points require the relative proportion of the steps of the scale to be maintained by means of sharps or flats in the signature. The key of C major requires no flats or sharps for this purpose, hence it is called the normal key.

KEY ISLANDS, a group of islands in the Banda Sea, East Indian Archipelago. See KEI ISLANDS.

KEY WEST, Fla., city, port of entry, county-seat of Monroe County; about 60 miles southwest of Cape Sable and nearly 100 miles north by east of Havana, Cuba. The city is on Key West Island, one of a group of coral islands, called Florida Keys. It is the farthest south of any city in the United States. The first permanent settlement was made in 1822 and the city received its charter in 1832. Key West Island is covered by only a thin layer of soil upon which vegetation grows luxuriantly. The island averages about 11 feet above the sea. The harbor is excellent; at the main entrance, on an artificial island, is located Fort Taylor. The city has regular steamer communication with the large cities on the Atlantic and Gulf coasts and with the West Indies and Central America. It is on the Florida East Coast Railroad and is the terminus of the ocean ferry to Havana. There is through passenger and freight car service between Havana and New York via Key West. It is a United States naval station, with machine shops, dock, marine railway, hospital, barracks, etc., and during the war with Spain, it was the rendezvous of the United States navy. The chief industries are manufacturing of cigars, gathering sponges and fishing. There is a large trade in fish, fruit, vegetables, turtles, turtle-shell ornaments, salt, tobacco, both raw and manufactured. In connection with the naval station there are barracks, machine-shops, marine hospital, docks, etc. Some of the chief public buildings are the government buildings, post-office and custom-house, county court-house, city-hall, and the Martello towers. The principal educational institutions are a Methodist Seminary and the Holy Name Academy. The convent of the Holy Name was used as a hospital for soldiers during the Spanish War. The free public library and the public and parish schools are excellent. There are two banks with a combined capital of $150,000. The government has erected two light-houses in the harbor and others among the islands; but still many wrecks occur each year. The city owns and operates the waterworks. Key West in 1890 was the largest city in the State. Pop. 21,150.

KEYBOARD, the name given to a set of "keys" through which the tones of certain musical instruments are produced. The principal instruments which are at present operated in this way are the piano and organ. It is in connection with the latter that keys and keyboards were first used. Their employment can be traced back to pre-Christian times, but little is known concerning them until we come to the Middle Ages. The organ keys of this time were huge, unwieldy affairs, each key being from three to six inches wide and correspondingly long. They were not operated by the fingers, of course, but the entire fist or elbow was used in their manipulation, a circumstance which made it impossible to play more than one note at a time with each hand. The keyboards of the period were limited in range, and confined almost entirely to the so-called diatonic tones (represented at present by the white keys). Later the sharps and flats (black keys) were added, and the size of the keys was gradually reduced to the present dimensions.

The clavichord and harpsichord (precursors of the piano) were further keyboard instruments. Here, also, there was a development from primitive conditions, but essentially the nature of the keyboard, when once established, was similar to that of the modern piano. Only the range was smaller and the color was sometimes different, the keys which are now white being black, and those which are black being white. The harpsichord also made use of a double keyboard, each with its specific tonal effects.



The piano keyboard, which is shown in the illustration, consists of 88 members or keys, 52 being white and 36 black. As is apparent, the latter are arranged in alternate groups of two and three keys. Thus the keyboard is divided into recurrent sections, known as octaves. More specifically, an octave is the distance from one key to the next one that is similarly placed. For example, the distance from the middle one of the three black keys, near the centre of the keyboard, to the same key either right or left, is an octave. C is the white key immediately to the left of the group of two black keys. B and A successively follow to the left of this, D, E, F and G to the right. After G a new octave commences with A. The black keys are named after the adjoining white keys, and are called sharps when derived from the white keys immediately to the left, and flats when derived from those immediately to the right. Thus the first of the group of three black keys, counting from the left, may be either F sharp or G flat, the next, G sharp or A flat.

The organ keyboard is similar to that of the piano, only the number of keys is smaller. This does not imply, however, that the range is smaller too, for it is possible to raise or lower the pitch of the keys by means of the mechanical devices known as stops. The organ, unlike the piano, generally makes use of several keyboards, which are called manuals. These are placed above each other, and their number may reach up to five. Besides, there is a distinct series of keys to be operated by the feet, which is known as the pedal board. By means of the various manuals it is possible to produce a variety of successive effects; likewise to combine these effects through the use of different manuals for the two hands, and the reinforcement of the same, if desirable, by the pedal board. Furthermore, it is possible to combine all the manuals and pedal board in a grand total effect.

Although improvements and changes have constantly been made in the tone and mechanism of keyboard instruments, so great in some cases as to result in the formation of new instruments, no change has been made for centuries in the arrangement of the keys. Under the circumstances it is natural that this matter should also receive the attention of innovators. Is it likely, we are asked, that an arrangement which grew up under conditions as primitive as those of the Middle Ages, and which was intended for the crude application of fist and elbow, should also be the ideal one for the delicate fingers, so different in strength and shape? This supposition being rejected, various changes have been suggested, some of a mild nature, some radical in their scope. For example, instead of the straight, side-by-side alignment of the keys, one which is slightly fan-shaped, and with an inward curve, has been suggested. But entire redispositions of the keys, too, have been proposed, the most notable recent attempt in this direction being that of Paul von Jankó, a Hungarian inventor. He has devised a keyboard with six parallel rows of keys, one row behind the other, and each successive row slightly elevated above its anterior neighbor. One advantage of this arrangement is to be found in the immense simplification of performance in the different keys which it allows. It is necessary to learn only two scales — one major, one minor — instead of the present 24. Furthermore, an octave can be spanned with about the same ease as a sixth on our actual pianos.

The invention is ingenious, and the new keyboard made considerable headway for a time; but the prospects for its universal adoption are meagre. Whatever the disadvantages of the present keyboard, it has the advantage of actual possession of the field. The substitution of a new system would involve the discarding of present instruments, the relearning of the art by those who were educated in the old way, and the abandonment of valuable pedagogical works adapted to the piano and organ as they are. It would correspond, in the realm of music, to the introduction of radical changes in the system of weights and measures, or in the spelling of entire languages. So great are the difficulties involved, indeed, that it is doubtful whether the change will ever be made. The present keyboard, firmly imbedded in the musical life of the world as it is, seems destined to retain the supremacy which it has so long enjoyed.

ALBERT GEHRING,
Author of 'The Basis of Musical Pleasure,' etc.

KEYES, Charles Rollin, American geologist: b. Des Moines, Ia., 24 Dec. 1864. Educated at State University of Iowa and Johns Hopkins, he became assistant to the United States Geological Survey (1889–90); paleontologist to the State of Missouri (1890–92); assistant geologist for the State of Iowa (1892–94); director of the geological survey of the State of Missouri (1894–97). The following two years he spent in travel and geological studies in Europe, Asia and Africa. On his return he became president of the School of Mines of the State of New Mexico, a position he gave up in 1906 to continue his geological foreign studies. Since then he has been consulting mining engineer in Des Moines, Iowa. Among his published works are 'Geological Formations' (1892); 'Coal Deposits' (1893); 'Organization of Geological Surveys' (1894); 'Paleontology of Missouri' (1894); 'Surveys' (1894); 'Maryland Granites' (1895); 'Origin and Classification of Ore Deposits' (1907); 'Ozark Lead and Zinc Deposits' (1909); 'Deflation' (1910); 'Mid-Continental Eolation' (1911); 'Bibliography of Geology' (1913); 'Mechanics of Laccolithic Intrusion' (1917).

KEYES, kēz, **Edward Laurence,** American surgeon: b. Charleston, S. C., 28 Aug. 1843. He is a son of Erasmus D. Keyes (q.v.) and was graduated from Yale in 1863 and from the medical department of the University of New York in 1866. He practised his profession in New York from 1867, and from 1869 to 1890 was a member of the faculty of Bellevue Hospital Medical College. He published 'Tonic Treatment of Syphilis' (1877; rev. ed., 1896); 'The Venereal Diseases' (1880); 'Treatise on Surgical Diseases of the Genito-Urinary Organs' (1881; 2d rev. ed. by E. L. Keyes and E. L. Keyes, Jr., 1905), etc.

KEYES, Erasmus Darwin, American soldier: b. Brimfield, Mass., 1810; d. 1895. In 1832 he was graduated at the United States Military Academy, West Point, and in the same year was stationed in Charleston, S. C., subsequently he was for several years engaged in suppressing Indian outbreaks on the frontier and in

garrison duty. When the Civil War broke out Keyes was made colonel of the 11th Infantry and deputed to New York to organize the relief expedition to Fort Pickens. In May 1861 he was made brigadier-general of volunteers and two months later participated in the first battle of Bull Run. Subsequently Keyes commanded the Fourth Corps in the Peninsular Campaign during which he was constantly in active service. In 1864 he resigned. General Keyes published 'Fifty Years' Observation of Men and Events, Civil and Military' (1884).

KEYES, Henry Wilder, American public official: b. Newbury, Vt., 23 May 1863. In 1887 he was graduated at Harvard University and thereafter became extensively engaged in farming for many years. He was a member of the New Hampshire house of representatives for six years and of the senate for two years. He served as governor of New Hampshire for the term 1917–19. In 1918 he was elected to the United States Senate for a term of six years, beginning 4 March 1919. He is interested in several commercial enterprises as corporate officer, director or trustee.

KEYNES, kānz, **John Neville,** English educationalist and economist: b. Salisbury, 1852. Educated at the universities of London and Cambridge, he served successively as Fellow in both of them, becoming lecturer in moral science in the latter (1884–1911) and secretary of the university senate (1893) and registrar (1910). Among his published works are 'Studies and Exercises in Formal Logic' (1884) and 'Scope and Method of Political Economy' (1891 and 1904).

KEYPORT, a town in New Jersey, Monmouth County, known as a popular summer resort. It is about 20 miles southwest of New York City, with which it is connected by railway and boat. Its principal industries are confined to the manufacture of wagons, carriages, sewing machines and rubber goods and the handling of oysters and clams. Pop. about 3,600.

KEYS, the name given to coral and other reefs or slightly sunken rocks off the shores of Florida, Central America and the West India Islands. The term is derived from the Spanish *cayo* (an islet, rock).

KEYS, Power of the. A doctrine based on the saying of Jesus recorded in the gospel of Matthew xvi, 19: "And I will give unto thee the keys of heaven: and whatsoever thou shalt bind on earth, shall be bound in heaven: and whatsoever thou shalt loose on earth, shall be loosed in heaven." On this passage is based the doctrine of absolution after confession as taught and practised in the Roman Catholic Church. In the history of the Church there have been many variations of the doctrine. Some have held that only a priest of a pure life could absolve from sin, while others have held that any priest could pronounce absolution as the messenger and representative of God. Some have held that the priest could release only from "transitory" punishment and that only God can release from "eternal punishment" and that often by words of the priest. Another difference has arisen; some have declared that the priest is absolving as a judge, and others that he is acting as a mediator, while a third group has declared that he combined both functions. Thomas Aquinas gave the doctrine its importance giving a sacramental power to the keys, and uniting in this central power not only absolution, but penance and discipline. In his various relations to penance the priest holds the relation that water holds to baptism.

The Protestant view is based on an entirely different interpretation of the passage. The power of the keys was given to Peter as a sign of apostolical authority to establish the Church by the preaching of the forgiveness of sin and the establishment of the doctrine of the gospel. The power to bind and loose was not only conferred upon Peter but upon the other Apostles, and also upon their successors, the whole Church (Matt. xviii, 18). The Protestant doctrine of the priesthood of all believers is based in part upon the teaching of the Epistle to the Hebrews.

KEYSER, Cassius Jackson, American mathematician and author: b. Rawson, Ohio, 1862. Educated at Ohio Normal University and universities of Michigan, Missouri and Columbia, he taught in public schools and became professor in Washington University, Saint Louis, Mo. (1894–95); and going to Columbia University he became professor of mathematics in 1904 and head of the department in 1910. He wrote 'Science and Religion: The Rational and the Super-Rational' (1914).

KEYSER, kī'zẽr, **Ephraim,** American sculptor: b. Baltimore, Md., 6 Oct. 1850. On the completion of his academic course in his native city, he studied art at the Royal Academies in Munich and Berlin, where his success was marked. He has had studios in Rome, Italy, New York and Baltimore, where he now resides; in charge of the sculpture and modeling classes at the Maryland Institute School of Art. His most important public works are the De Kalb statue at Annapolis, Md., the Stein memorial in Baltimore and President Arthur's tomb at the Rural Cemetery, Albany, N. Y. He has made numerous portrait busts, among others those of Cardinal Gibbons, Henry Harland, Daniel Coit Gilman and Sidney Lanier. While abroad he received the Michael Beerche scholarship.

KEYSER, Leander Sylvester, American Lutheran clergyman, theological teacher, and naturalist: b. Tuscarawas County, Ohio, 13 March 1856. He was educated at several normal schools, the Ohio Northern University and the Indiana University, and was graduated from the Hanna Divinity School, Wittenberg College, Springfield, Ohio, in 1883. He was pastor successively at Elkhart, Ind., Springfield, Ohio, Atchison, Kans., and Canal Dover, Ohio. In 1911 he became professor of systematic theology in Hanna Divinity School, which position he now occupies. He also teaches ethics, theism and Christian evidence in Wittenberg College, which conferred upon him the degrees of A.M. and D.D. Besides theology, he has also been deeply interested in natural history, and has specialized in ornithology. His books are as follows: 'The Only Way Out' (1888, rev. ed., 1906); 'Bird-dom' (1892); 'In Bird Land' (1894); 'Birds of the Rockies' (1902); 'Our Bird Comrades' (1907); 'The Rational Test' (1908); 'A System of Christian Ethics' (1913); 'Election and Conversion' (1914); 'A System

of Christian Evidence' (1913); 'Theological Outlines and Theses' (1915); 'A System of Natural Theism' (1917).

KEYSER, the county-seat of Mineral County, W. Va. It is situated on the Potomac River, not far from Piedmont, in a stock-raising and fruit district. It is well supplied with railway connections, which include the Baltimore and Ohio, the Western Maryland and the Twin Mountain and Potomac. These facilities have given rise to railway machine shops, woolen and silk mills, furniture and canning factories and other industries. Population about 5,000, which is larger in the summer season as the place is a summer resort. The town contains a State preparatory school.

KEYSERLING, Eduard, GRAF (COUNT) VON, German novelist: b. Pelss-Paddernin Kurland, 15 May 1855. His early dramas showed excellent observation and detailed and impressive mood-painting, but he is stronger in the novel and short story, in which these qualities are capable of better application than in the drama. He has published 'Rose Herz,' novel (Munich 1883); 'Die dritte Stiege,' novel (Munich 1890); 'Frühlingsopfer,' drama (Berlin 1890); 'Der dumme Hans,' drama (Berlin 1901); 'Beate und Mareile,' a novel; 'Peter Hawel,' a drama (Berlin 1903); 'Benignens Erlebnis,' a drama (Berlin 1903); 'Schwüle Tage,' short stories (Berlin 1906); 'Dumala,' a novel (Berlin 1908); 'Bunte Herzen,' short stories (Berlin 1909). A translation of the last of these, under the title 'Gay Hearts,' appears in 'German Classics' (Vol. XIX, New York 1914). Consult Martens, Kurt, 'Literatur in Deutschland' (Berlin 1910).

KEYSERLING, Margarethe, GRÄFIN (COUNTESS) VON, German authoress: b. Berlin, 22 Feb. 1846. Her maiden name was von Dönniges and she is sister of the famous Helene von Dönniges and wife of Eduard von Keyserling (q.v.), whom she married in 1864. She moved with her parents to Munich in 1847 and to Geneva in 1859. She has lived and worked in various cities: Görlitz (1868–75), Glogau (1875–88), Reichenbach (1888–98) and Breslau, near which she is still living (at Kleinburg). She is a popular novelist, whose works are widely read and soon forgotten. They include the novels 'Lucciola' (1880); 'Sturmhexe' (1881); 'Das Fritzche and Exzentrisch' (1893); 'Der Werwolf' (1899), and the dramas 'Sordello' (1899); 'Ein Todesurteil' (1908); 'Auf Ruhmeshöhen' (1909).

KEYSTONE STATE, a name given to Pennsylvania, because it was the seventh, or central, of the original 13 States.

KHABAROVSK, kä'ba-rōfsk', capital of Priniorsk (Maritime province), Siberia, and seat of the governor-general of Amur. It is situated at the junction of the Amur and Ussuri rivers, and is therefore a place of considerable commercial importance, which has grown steadily since its foundation as a military station in 1858. Pop. over 60,000. It was formerly known as Khabarovka.

KHAIBAR (kī'bĕr) **PASS,** a high mountain pass between India and Afghanistan. See KHYBER PASS.

KHAKI, kä'kĭ, a kind of light-brown, drab, or dust-colored cloth, originally used for making the uniforms of British East Indian regiments. In the South African War of 1899–1902 the British troops wore khaki uniforms for purposes of protective coloration, and khaki was also worn by the United States troops in the Spanish-American War. The name is derived from the Persian "khak," earth, dust, hence earth-colored, to render the wearer inconspicuous. Consult Forbes, 'Hindustani Dictionary'; Gubbins, 'Mutinies in Oudh' (p. 296); Yule and Burnell, 'Hobson-Jobson,' a dictionary of Anglo-Indian terms.

KHALIFA, kä-lē'fä, **The** (SAYED ABDULLAH IBU-SAYED MOHAMMED), Arab religious leader: b. Darfur, 1846; d. battle of Om-Debraket, Egypt, November 1899. He fought against the Egyptian invasion of Darfur, and subsequently, having heard of the troubles of the Mad Mullah (q.v.), Mohammed Ahmed, with the Egyptian authorities, he visited Mohammed and proclaimed that the latter was the divinely-sent Mahdi, or "director," appointed for the regeneration of Islam. It was by his councils that the Mahdi caused the troubles in Kordofan and Darfur. Ere long he was made "khalifa," or vice-gerent, his acts to be regarded as equivalent to the Mahdi's own. He was named by the Mahdi as successor, and from 1885 ruled over the Sudan and such adjacent districts as he brought within his sway. His capital was situated at Omdurman, near which, on 2 Sept. 1898, his army, though fighting with great bravery, was almost annihilated by the British and Egyptian forces under Sir Horatio (afterward Earl) Kitchener (q.v.). He escaped northward, but on 24 Nov. 1899 was slain at the combat of Om-Debrakat. Consult Ohrwalder, Father, 'Ten Years' Captivity in the Mahdi's Camp' (London); Slatin, Sir R., 'Fire and Sword in the Sudan' (London 1895). See also EGYPT — *History;* SUDAN.

KHAMA, ruler of Bechuanaland: b. about 1846. He was originally head only of the Bamangwato, a northern tribe of his country, but owing to his struggle against the Boers he came to represent the interests of all of Bechuanaland. In 1884, after 12 years' struggle against the Boers on the part of Khama and other native chiefs, the whole of Bechuanaland was formally taken under British protection. Khama, who had become Christianized, stood the firm friend of the British and assisted them against other insurgent tribes.

KHAMMURABI. See HAMMURABI, THE CODE OF.

KHAN, kän or kăn, or **CARAVANSARY,** an unfurnished inn for travelers common in Turkey and other Eastern countries. There are two kinds, those for poor travelers and pilgrims, where a lodging is furnished gratis, and those for traders, which are usually more convenient, a small charge being made for each chamber. Khan is also the title of an Eastern or Asiatic ruler, as khan of Khiva. Such government is a khanate.

KHANDESH, khän-dēsh', or **CANDEISH,** British India, an inland district in the presidency of Bombay, with an area of 10,041 square miles. In 1906 the district was divided into two new districts called West and

East Khandesh, with headquarters at Dhulia and Jalgaon. The former has 5,497 square miles and pop. about 470,000; the latter 4,544 square miles, pop. about 960,000. Consult 'Imperial Gazetteer of India' (London 1908).

KHARGEH, El, khär'gĕ, or **KHARGA,** Upper Egypt, town, capital of the oasis of the same name in the Libyan Desert, 100 miles west of Thebes, in 25° 28′ N., 30° 40′ E. Among its numerous ruins are those of a temple of Ammon, and near-by is a remarkable necropolis. Pop. about 6,000.

KHARKOV, Här-kŏf', or **CHARKOV,** Russia, (1) a southern government in Little Russia, bounded north by Kursk and Voronezh; west and southwest by Poltava; south by Ekaterinoslav; east by the Don Cossacks; area, 21,041 square miles. It is watered by affluents of the Dneiper and the Don. There are forests in a few parts, but the country generally is open, the soil dry and of a mixed loamy and sandy nature, but usually fertile. The climate is mild, though the winter is somewhat severe; the summer is frequently very hot. Agriculture and stock-raising form the chief employment of the inhabitants. Sugar and tobacco are manufactured. Pop. 3,329,700. The principal town is (2) Kharkov, the capital, at the confluence of the Kharkovka and Lopanj, 400 miles southwest of Moscow. The houses are mostly of wood, whitewashed, and have a cleanly appearance. The city is the see of an archbishop, contains a university with an attendance of 1,800 students and valuable library containing over 175,000 volumes, a museum and botanical garden, a technological institute and a veterinary institute, etc. The inhabitants carry on a considerable trade in soap, candles and leather, and among the chief industries are wool-washing and the manufacture of flour, bricks, iron products, tobacco and cigars. Four important fairs are held each year. Pop. 248,281.

KHARTUM, Har-toom', or **KHARTOUM,** capital of the Egyptian Sudan, on the left bank of the Blue Nile, near its junction with the White Nile. Founded under Mehemet Ali in 1823, it rapidly rose to be the chief town of the Egyptian Sudan, but after its conquest by the Mahdi it was abandoned for Omdurman, on the opposite bank of the river. In the latter part of 1898 it was again occupied by British and Egyptian troops, who found it in a ruined and neglected condition. It was then a straggling place covering a wide area, with irregular streets and houses mostly built of sun-dried bricks. Since the British occupation the town has prospered, great improvements have been carried out, and a handsome broad avenue on the bank of the Blue Nile has been laid out. There are a number of mosques, a Coptic church and the palace of the governor-general. The strong strategic situation of Khartum, with rail connections to Upper Egypt and the Red Sea, and water routes to Abyssinia, Uganda and the Belgian Kongo, make it the natural emporium of a vast region. It was the scene of Gordon's heroic defense against the insurgent Sudanese and of his death in January 1885. The Gordon College, established here after the British occupation, was named in honor of him. This college trains aspirants for minor magistracies in their work, has a manual training school and a well-equipped research laboratory. Pop. 69,349.

KHAT, the favorite stimulant of southwestern Arabia, especially in the Yemen region. It is leaves from the plant *Catha edulis,* a thick-set, dark-green, leafy shrub, 5 to 12 feet high, growing in the mountains of Arabia mostly between altitudes of 4,000 and 6,000 feet. There are many varieties differing greatly in value. According to Beitter the active principle is an alkaloid, *katin.* The leaves are chewed and the effect is a prompt stimulation of the brain, relieving fatigue and dispelling gloom.

KHATMANDU, kät'măn-doo', **KATMANDU,** capital of Nepal (q.v.), situated at the junction of Vishnumati and Bagmati rivers. It is the largest city in Nepal, and was originally known as Manju Patan, having been named after the Buddhist saint Manjsri, who tradition says cut the barrier of mountains with his celestial sword and released the waters that once flooded the plain of Katmandu. The natives believe that the irregular, crescent-like shape of the city represents the traditional sword of the war-like saint. Previous to the Gurkha conquest of the country (1769) Katmandu was the capital of the Newar sovereigns, who reigned over a considerable part of Nepal and adjacent country. The city was once surrounded by strong, high and imposing walls, but these are no longer of military value and have fallen into picturesque ruin in several places. This picturesqueness is added to by the narrow, winding streets, most of which are obstructed in places and generally only wide enough for foot passengers. The four-story brick buildings which form the chief edifices of the city are closely crowded together and throw their shadows for the greater part of the day upon the filthy streets, making them still more unhealthful. The one redeeming feature in this unsanitary condition is to be found in the many public squares of the city into which the streets lead. In the midst of its filth the city presents a very picturesque appearance owing to the decidedly Chinese atmosphere and style of its architecture and its pagoda-like temples, many of them with brass or copper roofs which gleam in the sun so that they are seen from afar from their many-storied heights. Many of the doorways are also of the same materials. Wood-carving is everywhere in evidence in the temples, and the façades of private buildings and especially in the projecting balconies or Moorish windows. A British residency is stationed just outside the city and in the town is a British post office. Pop. about 80,000.

KHAYYÁM, Omar. See OMAR KHAYYÁM.

KHEDIVE, kĕ-dēv' (*Khidîv*), a Persian word signifying lord, the former title of the pasha of Egypt, granted by a firman from the sultan 12 June 1867. In Persia it was at different eras adopted by provincial governors who were independent of the shah. The title, which had fallen into disuse both among Persian and Turkish governors was revived in Egypt to give additional honor to Ismail Pasha (1830–95), after whom the title was borne by his son and grandson, Mohammed Tewfik and Abbas Hilmi II (q.v.). The latter was deposed 18 Dec.

1914; the title of khedive was abolished and that of sultan substituted in its place.

KHELAT, or **KELAT,** kē-lät, capital of Baluchistan, and residence of the chief khan of all the khans of Baluchistan. It is situated at an elevation of 6,780 feet above sea level on the sloping side of a mountain and it is surrounded by an ancient, massive abode wall, in places over 30 feet in height and of great thickness. The chief fortification of the city consists of the citadel surrounding the royal palace, the residence of the khan. The town has few industries but it is the centre of considerable local and foreign trade, the latter coming to it through its situation on various caravan routes reaching out to important neighboring industrial and commercial centres. The English forces took possession of Khelat during the Afghan War (1839); and since then the country has continued to maintain more or less close relationship with the British government, which obtained by treaty the right to have a British agent and military escort housed in the palace (1877). Since then British influence has been steadily on the increase. Pop. about 18,000.

KHERASKOV, kĕr'a-skôf', **Mikhail Matveevitch,** Russian poet: b. Pereyaslavl, Poltava, of a Wallachian family, 1733; d. 1807. He began life as a soldier, but became assessor of the University of Moscow in 1755, in which institution he remained most of his life (1755–1801), devoting all his spare time to literature, pedagogy and journalism. He attempted almost every field of literary endeavor, but met with most success in the tragic drama, novel and fables. His most lengthy work is the 'Rossyad' (in 12 books) which is woven about the invasion of Kazan by Ivan the Terrible. It shows distinctly in form and manner of treatment, the influence of the 'Æneid' but it is quite Russian nevertheless.

KHERSON, kĕr sōn', a government and capital of the same name in southern Russia. It lies between Kiev and Poltava on the north, Yekaterinoslav on the east, the Black Sea on the south and Padolia and Bessarabia, and has an area of over 27,000 square miles, of practically flat country lying at a very low elevation. Though watered by the Dniester, Bug and Dnieper, much of the country suffers frequently from insufficient rainfall. Among the industries of Kherson are foundries (principally for iron), machine shops, carriage and wagon factories, flour mills, agricultural machinery works, leather, hemp and wool establishments and marble and granite quarries. Stock raising and fruit growing form the chief agricultural pursuits of the south while grain growing is more popular in the north, and tobacco and wine are produced in favored localities throughout the whole "government." Population 3.500,-000, principally Russians with an admixture of Greeks, Germans, Bulgarians and Jews. Kherson, the capital, has a population of over 90,000, composed about the same as that of the "government" except that the Jews number over 30,000. It lies on the Dnieper about 20 miles from its mouth. It is a distributing point to the interior for Odessa and Nilkolavev of the imports of these centres of trade; and it helps to furnish exports for the foreign commerce of the district, especially in hides, flour, tallow, beer, wool and soap. Kherson is one of the most progressive cities of southern Russia; it is modern in appearance and pleasing and the buildings are well constructed. It possesses an obelisk erected to the memory of John Howard who died there (1790). Among the industrial establishments of the city are tobacco factories and grain and woolen mills. The city, which was founded in 1778 by Prince Potemkin as a naval port with very strong fortifications, has erected a fine bronze statue to the memory of its founder. The fortifications of the new city were, however, scarcely completed when the plans were changed and Nikolayev replaced Kherson as the great southern naval port.

KHINGAN, kĭn găn', a mountain range separating Mongolia from Manchuria, and running from the southeastern end of the Desert of Gobi to the Amur River, passing, in its course, through eastern Mongolia and western Manchuria. In some places the mountains reach an elevation of about a mile and a half above sea-level. Further south in northeastern Manchuria on the southern side of the Amur the continuation of the range is known as the Little Khingan Mountains, while the larger range is known as the Great Khingan.

KHIVA, kē'vä, or **CHIVA,** a vassal state of Russia, in central Asia. It lies between 43°40' and 40° N. lat., and 57° and 62° 20' E. long. It is bounded on the north by the Sea of Aral, on the east by the river Oxus, and south and west by the Russian Transcaspian province. It formerly occupied a large extent of surface on both sides of the Amu-Daria or Oxus, but since the cession to Russia, in 1873, of its territory on the east of the Amu, is now confined to the west side of this river. Its area is 24,000 square miles. A great part of the surface consists of deserts, thinly inhabited or uninhabitable, but along the Amu the land is of a very different character, consisting of rich alluvial loam of the greatest natural fertility. Owing to the great dryness of the atmosphere, however, it soon becomes so stiff and hard that it cannot be penetrated by any ordinary implement. For this the obvious remedy is irrigation; and accordingly, from the earliest period, a mode of culture resembling that of Egypt has been practised. Large canals from the river, with numerous minor branches, intersect every part of the surface, supplying moisture where it is wanted or removing it where it is in excess, and securing the most luxuriant crops of wheat, maize, rice, barley and legumes. Cotton, silk and madder are also generally cultivated. The vine thrives well, but requires to be defended against the winter cold by a covering of straw and earth; all the ordinary fruits, including apples, plums, cherries, apricots, figs and pomegranates, are common. Trade is carried on chiefly with Russia. The principal exports are raw and spun cotton, in return for which are received various articles of European manufacture, as metals and ironware, woolen, cotton and silk goods, etc. The government of Khiva is an unmitigated despotism. The greater part of the inhabitants are Tajiks and Uzbeks, in nearly equal numbers. After these are Persians, Karakalpaks, Jamshids and Turcomans. They are Mohammedan in faith. The designs of Russia on Khiva long caused disquietude in Britain, which has always been jealous of Russian advances in Asia, mainly from a dread of

interference with her Indian Empire. Accordingly Count Schouvaloff was dispatched to England in January 1873, to give explanation respecting an intended expedition to Khiva. Its object was represented as simply the suppression of brigandage, the recovery of a few Russian prisoners, and to teach the Khan to desist from acts of violence in the future. The emperor, it was said, had given positive instruction that Khiva should not be taken possession of. In spite of these protestations, however, Khiva was taken possession of on 10 June; and later in the year, though the nominal independence of the Khan was stipulated for, it was decided to annex to the Russian dominions the Khivan territory on the right bank of the Amu. The Khan also renounced all right of making wars or treaties without Russian sanction. The population is estimated at 646,000. Consult Abbott, 'Narrative of a Journey from Herat to Khiva'; Burnaby, 'A Ride to Khiva' (1887); Colquhoun, 'Russia against India' (1900).

KHLESL, klā'sl, **Melchior, or KLESEL,** Austrian prelate: b. Vienna, 1552; d. 1630. Educated in the Protestant faith, he became, early in life, a very strong Roman Catholic and an advocate of a united Christian faith, but one in which all should bow to the teachings of Mother Church. He soon became looked upon as the champion of Catholicism in Austria; and his influence extended throughout all the German-speaking countries. Owing to his earnestness and ability, he rose rapidly and became bishop of Vienna at the age of 50 and cardinal 13 years later. With each successive dignity his power increased. A great friend of the Archduke Mattias, he was appointed by the latter Chancellor on his coming to the throne. This gave him political as well as ecclesiastical power which he exercised with all his accustomed energy. But unfortunately he became mixed up in politics, took part against the Emperor Rudolph and tried to persuade Ferdinand II and Duke Maximilian of Bavaria to discontinue the war with Bohemia. As a result of this political interference he was imprisoned in the Castle of Ambras (in the Tirol). The case was appealed to Rome and Klesel was acquitted by the papal authority and sent back to Austria, where an armed truce existed between him and Ferdinand (1627). His correspondence and controversial works published in Vienna in four volumes (1847–51) form very valuable material for political and ecclesiastical history of his time. Consult Kerschbaumer, 'Kardinal Klesel' (Vienna 1865).

KHLYSTI, or **KHLISTI,** klĭs-tĭ', a Russian sect which made its appearance in the 17th century under the leadership of Daniel Philipovitch, a fanatic soldier, who, deserting the army, wandered about the country proclaiming himself the incarnate God. With him went an adopted son whom he asserted was Jesus, the Christ, and the Son of God; and an adopted daughter whom he put forward as the Virgin Mary. Khlysti was a man of great oratorical power and exercised a strange influence over the country people who followed him and became fanatically attached to him. The sect grew with wonderful swiftness and its presence was everywhere made manifest by hysteria and religious exaggeration. In vain the government attempted to stamp out the movement; for the adherents met in secret and the sect is still in existence. Out of it grew other sects of similar tendencies, all of which are noted for austerity of life and simplicity of dress. Fasting and other methods of weakening of the flesh were a part of their regular procedure from the beginning and still signalizes them. They all look upon themselves as gods, or children in the flesh of God and as such pray to one another and they address one another as God, Saviour, Redeemer and Mother of God. The heavy hand of the Russian Church and government fell upon them and they were accused of blasphemy. Hundreds of them were exiled to Siberia or imprisoned in Russia. The Khylsti are also commonly known as Danielites, from the baptismal name of their founders.

KHMERS, kmĕrz, the earliest-known inhabitants of Cambodia. In the course of time they have been forced to retreat to the low, marshy lands of the country and neighboring sections of Cochin-China and Siam. At this late date it is very difficult to tell whether they were originally a pure race consisting of one linguistic stock when they first came into the country they now occupy, or were then a mixed race. It is certain that they are now linguistically and ethnologically made up of different races; but this may be the result of their constant contact for many years with the various races by which they have been surrounded and with which they have come into touch. In their language are to be found traces of Mongolian, Dravidian and Aryan influences; but to which of these races they originally belonged, if any, does not seem to have been definitely decided though much has been written on the subject and extensive investigations, chiefly of a linguistic nature, have been undertaken. These would seem to place the Khmers either among the Malays or Polynesians or among both, making them a hybrid race. Although their language retains many Mongolian affinities, yet their appearance is not typically Mongolian; and they have normally neither Mongolian hair nor Mongolian eyes, the hair being inclined to be wavy and the eyes very like those of the Indo-European races. But these physical characteristics are not a sure indication that they may not have originally been of Mongolian stock; for the Turks, for instance, have lost, through intermarriage and mixture of races, their very marked original racial characteristics. The Khmers are taller, darker and more slender of form than the races among which they live or by which they are surrounded. That they have long been a cultured race there seems little room for doubt; and it is generally conceded that they were the builders of the magnificent ruins of very ancient edifices to be found in what is generally conceded to be the primitive area of Khmers occupation. These consist of noteworthy pyramids, temples, palaces and other buildings executed with considerable taste, skill and knowledge of the principles of architecture as generally known in the more primitive stages of Indian culture. These edifices show progressive stages of development, just as do the buildings of pre-Columbian America, more especially those of Yucatan, Central America and Peru. There are indications that the later Khmers edifices were influenced by the lighter and more artistic In-

dian architecture and cultural taste. How far back the earliest existing Khmers ruins date is a much disputed question; some authorities claiming for them an existence in the pre-Christian days, while others as stoutly maintain that they do not date further back than the 1st or 2d century of the present era, if indeed they were in existence at that time. Evidence goes to show, however, that the best of their architectural age stretched from about 700 to 1400 A.D. This span of 700 years was undoubtedly influenced by the then prevailing Indian architecture; but the bases of all the Khmers building was undoubtedly indigenous and not, as has been claimed, derived from India; and the proof of this rests in the fact that these buildings are so different from anything that India produced at that time or since. The modern Khmers are still skilled mechanics and are especially noted as gold and silver smiths. See CAMBODIA; SIAM; COCHIN-CHINA.

Bibliography.—Aymonier, 'Tentes Khmers' (Paris 1878–91); 'A Khmers-French Dictionary' (Saigon 1876); and various other works on Cambodia and Cochin-China; Barré, Léon, 'De l'influence française au royaume des Khmers' (1902); Combanaire, A., 'Etude sur les peuples préhistoriques du Cambodge et de la région d'Angkor' (in Bulletin de la Société des Etudes indo-chinoises de Saigon, No. LVII, Saigon 1909); Fournereau (and Porcher), 'Les ruines d'Angkor' (Paris 1890); 'Le Siam ancien' (Paris 1895); and various works on Cambodia, Cochin-China and Siam by Garnier, Lemire and Maura.

KHNOPFF, knopf, **Fernand,** Belgian painter, etcher and sculptor: b. Grembergen, Flanders, 1858. He began the study of law, but soon abandoned it for that of painting. He early developed excellent technique and breadth of view, in which, however, there is no evidence of marked originality. His work is modern in every way; but it is none the better for that reason. Yet he often comes to the borderland of originality without overstepping it. His failure to go farther seems to be due to his lack of vigor and strength of imagination, as he has frequently shown in his beautiful and harmonious pictures and exquisitely conceived and executed female figures; but his originality is not of that forceful kind that has the power of creating original conceptions and presenting them in a vigorous and convincing form. His most beautiful creations, therefore, have their birth more often in imitation than in original thought. The best of his works is his portraits; and he seemed to find more than his usual inspiration in many of the faces he was called upon to reproduce. He was a very popular artist, especially as a portrait painter, and consequently much of his best and most interesting pictures are in the hands of private individuals. Among his better known works are 'The Crisis'; 'The Temptation of Saint Anthony'; 'Memories'; 'I Lock My Door upon Myself' (Brussels Gallery); 'White, Black and Gold' (Brussels Museum); 'The Idea of Justice'; 'Isolde.' Consult Dumont-Wilden, 'Fernand Khnopff' (Brussels 1907).

KHNUM, knoom (khnm, a stem), or **CHNUM,** a very ancient divinity worshiped in Egypt in primitive times. He was a native god and probably a water deity. He became of great influence as a local divinity and was worshiped as the presiding spirit of the cataract of the Nile. Being a deity of growth and fruition, Khnum was looked upon in the local section, where he was all powerful, as the creator of gods and men. This indicates that he was a tribal god which had been introduced, probably at a very early period, into the hierarchy of the gods of Egypt. He was associated with two other tribal deities, Satet and Anuket, which also came into prominence among the deities of Egypt. Khnum is frequently mentioned in the Egyptian texts that have survived, and in them he is generally looked upon as the former and creator; and is represented as turning the new-born child upon the potter's wheel or officiating at the birth of kings and princes. In the course of time the attributes and functions of Khnum were extended and enlarged and he became looked upon as a cosmical deity. Pictorially he was represented and is so presented in the manuscripts in human figure with the horned head of a ram. For this reason his sacred emblem was the ram. Consult Budge, 'The Gods of the Egyptians' (London 1904); Steindorff, 'The Religion of the Ancient Egyptians' (New York 1905); Wiedermann, 'Religion of the Ancient Egyptians' (New York 1897).

KHODAVENDIKYAR, kō'dă-vĕn-dē-kyăr', or **BRUSA,** a Turkish vilayet situated in the northwest of Asia Minor. It comprises historic ground since it is made up principally of ancient Phrygia and Bithynia which are as noted to-day for their fertility as they were in the days of their ancient renown. The manufactures of the country have been steadily but slowly growing into importance; and under a more liberal rule they would probably be of much more importance than they now are. Area, 26,000 square miles; population nearly 2,000,000, of which about 20 per cent are Armenians. Capital Brusa.

KHOKAND, HŌ-kănd'. See FERGHANAH.

KHOLM, kōlm, a district and capital city of the same name in the government of Lublin, Russian Poland. The city of Kholm is situated about 45 miles to the east of Lublin, with which it is connected by railway. It is an excellent market for grain, cattle and other local products and is the centre of considerable import trade. Its railway interests are considerable and it possesses a railway school, a fine cathedral and other church and educational facilities. Kholm is written Chelm in Polish. Pop. about 30,000.

KHOLMOGORY, kōl'mō-gō'rĕ, a district and capital city of the same name in the Russian government of Archangel. The city which is situated on an island in the Dvina River is about 50 miles southeast of the city of Archangel. The district is noted for its excellent cattle which it raises in large quantities and exports in considerable numbers. It is said that the origin of these fine Russian cattle dates back to the reign of Peter the Great who brought back with him to Russia from his ship-building trip to Holland a number of fine Holland cattle, and with these the natives of Kholmogory so improved the native breed that it soon became noted not only at home but also abroad. To Peter the Great was also due the

prosperity of the town as a point of shipping on the line of the White Sea trade. With the decline, in comparatively recent years, of this northern trade, owing to change of conditions of commercial expansion, Kholmogory declined during the latter part of the past century; but it had again begun to improve before the European War broke out. On the outskirts of the town is the village of Denisovka which prides itself on being the place of birth of Lomonossoff, who is generally reputed to be the father of Russian literature. Pop. 1,053.

KHOMYAKOFF, kŏ'myă-kŏf', **Aleksey Stepanovitch,** Russian dramatist, poet and controversial writer: b. Moscow, 1804; d. 1860. He was for a time a soldier and served through the Russo-Turkish War (1828-29). During this period he gained very considerable experience which was of very great use to him in his later career as a literary man, upon which he entered as soon as he returned home from the Turkish campaign. He soon became distinguished as a lyrical poet and a very pronounced Slavophile, a rôle in which he attracted much attention throughout the Slav countries, and a little later on throughout all Europe. He became the leader of the pro-Russian school of writers, which was distinguished for its intense love of Russia or, in the case of the imitators, the blatant praise of it to the disparagement of all foreign countries. Khomyakoff was accused by his enemies and detractors of being "drunk with patriotism" and he was himself inclined to admit the charge without cavil. With the strongly imaginative sight of the born poet he sees in Russia the most beautiful, most wonderful, most nearly perfect, most ideal country in all the world. In the Slavs he saw the coming of a new race, destined to take the place of the effete West, the empire founded by the Germanic tribes upon the ruins of the Roman Empire. In the west, in the Germanic-Roman people, he could see nothing good; in the Pan-Slav countries, headed by Russia, he could see only through a vision in which everything was altogether lovely and alluring. Thus he naturally found a very large following of pro-Russians more inclined to listen to flattery than to the naked truth. Yet it would be probably unfair to accuse Khomyakoff of insincerity or a desire to flatter in his fervent praise of Russia and Pan-Slavism. His was an intense nature incapable of doing anything in a really temperate manner; and he pictured Russia as the all-lovely just as he saw nature in the most lovely of garments through the eyes of the lyrical poet. The same qualities that give life, inspiration and beauty to his masterly lyrics inspired his pro-Slavic love and vision. But many of his followers, who lacked the vision of the master, became blatant, tiresome, insincere, characteristics of the Khomyakoff school of literature at a later period in its history. The first notable work of Khomyakoff appeared in 1832. This was a drama entitled 'Yermak,' a work distinguished for its poetic touch, vivid imagination and the other qualities which were to distinguish the style of the writer throughout his whole literary activity. It at once attracted attention to the writer and marked him as one of the coming literary lights of Russia. This drama was followed the following year by a second, entitled 'Pseudo-Demetrius.' This latter drama is built up about the dramatic and romantic career of one of the false pretenders to the Russian throne, who actually succeeded in making good his pretensions for a time and in deceiving a large percentage of the Russian people. The story itself was dramatic and required only the breath of the creative genius to make it a great drama; and this Khomyakoff succeeded in doing. He was a great linguist and wrote fluently in Russian, German, French and English, and through these linguistic gifts he was able to keep in touch with the Pan-Russian party wherever members of it were to be found. Naturally all his writings in foreign languages were written with a view to reach his followers or of inspiring a love for Russia or to denounce the "rotten western world," and of exalting Russia as head of the Pan-Slavic world. One of his notable efforts in this direction was his 'A Message from Moscow to the Servians' which appeared in Leipzig in 1860 and created intense interest throughout the whole Slav world. In this "message" he embodied his most ultra ideas on the Pan-Slavic question. Khomyakoff was one of the greatest and most gifted of Russian poets and most felicitous of her prose writers. He wrote, in addition to the fields already mentioned, on historical, philosophical and theological subjects in a masterly manner.

KHONDS, khŏndz, or **KUS,** a people of Dravidian race living in parts of Orissa and Bengal. They are of low stature, well built and muscular and of a warlike disposition which has made them good soldiers and consequently highly respected by their neighbors. They are less cultured than the races by which they are surrounded. They cling to the ancient Dravidian beliefs, in which nature worship forms the chief rôle. But among them almost every sect of India and some of the European religions have a formal hold, though even where they prevail, they are grafted on the ancient religious beliefs and superstitions. The Khonds are said to have all the virtues of races in their stage of social evolution. They are kind and generous to one another, hospitable, faithful to their friends and allies and implacable to their enemies. In one respect they are above the moral standard of many races much more advanced than they, in that they are noted for their morality. Among their picturesque customs which have now practically disappeared were their practice of capture marriages and their human sacrifices which were offered to the earth deity or to the mother of fertility and production. This latter custom seems to have been at one time common to all the Indo-European races, among whom the great Earth Mother was one of the most revered of deities, under one name or another. Pop. about 500,000. Consult Campbell, 'A Personal Narrative of Thirteen Years' Service among the Wild Tribes of Khondistan' (London 1864); Dalton, 'Descriptive Ethnology of Bengal' (Calcutta 1872); Lewin, 'Wild Races of Southeastern India' (London 1870); Reclus, 'Primitive Folk' (New York 1891); Roney, 'The Wild Tribes of India' (London 1882).

KHOOZISTAN. See ELAM.

KHOPA, kō'pă, a seaport in the vilayet of Trebizond, Asiatic Turkey. For many years

previous to the European War of 1914–18 it was a fortified place; but its fortifications were altogether unfit to withstand modern artillery. In the beginning of the war the Russian warships bombarded the port-works, the barracks and the town; set the latter on fire and destroyed great stores of ammunition and parts of the town on the port side. This rendered the place useless, for the time being, to the Turks who had been preparing to occupy it with a heavy military force.

KHORASAN, ko-rä-sän', Persia, an extensive northeastern province; area, about 140,000 square miles. The surface is to a great extent uninhabitable. The mountainous region of the north has many well-watered valleys with a fertile soil. The most valuable mineral is the turquoise. In many parts cotton, hemp and tobacco grow freely and aromatic plants and drugs are numerous and valuable. The principal manufactures are silk and woolen stuffs, carpets, firearms and sword-blades. About two-thirds of the inhabitants are Persians; the remainder are Turcomans, Kurds and other tribes, who lead a nomadic life. The chief town is Meshed. Pop. estimated at 860,000.

KHORSABAD, khōr-sä-bäd'. See NINEVEH.

KHOSRU, kŏs-roo' (meaning, having good or great renown), a semi-legendary king of Persia, known as Kai (king) Khosru. About his name have collected many legends, and attempts have been made to identify him with Cyrus the Great. He belonged to the Kaianian dynasty of Persia, which seems itself to be more legendary than historical in so far as the present records are concerned. See KAIANIAN.

KHOSRU I, or **Khusrau,** known as Anushirvan ("he of the noble soul"), the Sassanian king of Persia, who reigned from 531 to 579. In Byzantine history he was known as Chosroes I. His reign was the most eventful one in the line of his dynasty. Though a younger son he succeeded to the throne by the conditions of the will of his father, Kobad, king of Persia. He was forced to face a rebellion on the part of his elder brother whom he defeated and put to death. In the ninth year of his reign he began war upon the Byzantines, between whom and the Persians there had long been a standing enmity, and a bloody contest opened which was destined to continue for 20 years, to see numerous battles, some of them gigantic for their age and the conditions under which they were fought and of varying fortunes. In the beginning of the campaign the Persians were the victors, but Khosru gained very little but glory out of the campaign, which finally ended in a patched-up treaty in which neither side could claim a real victory. Peace lasted 10 years without the Persians feeling that they were able to renew hostilities, when they were stirred to action by the young Emperor Justin II, who treated the Persian representatives at his court with notable disrespect and added to this indignity by the seizure of Armenia (570). Khosru retaliated by seizing Dara, which formed the advance garrison of Grecian territory to the east. After over seven vears of war and varying fortunes Khosru was very badly defeated at Melitine (577) by Justinian, who was himself routed in Armenia two years later, shortly after the death of Khosru, who died in the midst of the fiercest part of the struggle. He was long remembered as one of the greatest of Persian sovereigns. He divided the country into the four provinces subsequently very noted in history, and he gave to each a governor or viceroy responsible directly to the Crown. In this way he very greatly improved the government of the whole country and protected the people from the exactions and misrule of the governors. He encouraged trade and commerce, promoted native industries, colonized unpopulated parts of the country, rebuilt cities and restored to normal conditions the parts of the land which had been ravaged by war. He also extended the boundaries of Persia so that it stretched from the Arabian Sea to far into central Asia and from the Indus to the Red Sea. So notably did Khosru impress his personality upon his country that his name passed down into history with a cloud of striking legends and folk-tales attached to it; so that he became, to the masses of the people, more a legendary than a real historical character. In many of these folk tales he figured as a native Haroon al Raschid, a sort of Aaron the Just, dispensing the strictest if the sternest justice to rich and poor, to noble and peasant alike. Consult any good history of Persia or of Greece or of the Byzantine Empire.

KHOSRU II, king of Persia from 590 to 628. He was a grandson of Khosru I (q.v.), and was surnamed Parvez (the victorious) on account of his many victories. In the first year of his reign he had serious trouble on his hands through an insurrection stirred up by the Armenian insurgent, Braham Chubin. This he was enabled to put down through help opportunely rendered him by the Greeks to whom he surrendered most of Armenia and all of Nisibis and Dara which his grandfather had taken from them; and for 12 years he maintained peaceful relations with them. These relations were broken by the Greeks themselves. For 19 years Khosru carried on war against Byzantium with almost unvarying success, inflicting one defeat after another upon them and punishing them as they had never before been punished in all their history. He took from them all the land he had given them in the beginning of his reign out of gratitude for services rendered him, and he invaded and conquered Syria (611), Palestine (614), Egypt and Asia Minor (616) and the following year Chalcedon. Finally the tide of battle began to turn on account of trouble which Khosru found at home where the discontented plotted against him. The war continued to drag on with varying successes until finally Khosru was signally defeated and dethroned only to be murdered by his eldest son Sheroe, who led the party of discontent (628). Consult Justi, 'Grundriss der iranischen Philologie' (Vol. II, Strassburg 1896–1904).

KHOTAN, kō-tăn, or **ILCHI,** a city on the Khotan Darya, on the outer edge of the desert of the Tarim Basin, at an elevation of 4,600 feet, in the south of East Turkistan, China. Owing to the fact that it is on one of the greatest trade routes of the district it is a place of considerable importance, though it has only

about 50,000 inhabitants and is a straggling, poorly-built town such as may be found on the outskirts of eastern civilization quite frequently. For years the Khotan country was either independent or semi-independent, and during this time the city of Khotan was its capital and the official residence of the khan. For this reason it was strongly fortified in the olden days, and the fortifications still exist. Although strong enough to protect the city from raids of wandering nomads these fortifications would be useless against modern artillery. The chief industry of Khotan is the manufacture of silk, and its principal exports consist of silk, carpets and gold. Throughout the district of Khotan and in the city of the same name the chief inhabitants are Tartars. Round about Khotan are the ruins of very many ancient and once flourishing cities which are now covered up, for the most part, by the sands of the desert. Several excavating parties have been at work among them with interesting results to science. Consult Stein, A. M. (one of the excavators), 'Sand-buried Ruins of Khotan' (London 1903); 'Ruins of Desert Cathaay' (London 1912).

KHOTIN, ko'tyen, or **CHOTIN,** a district and capital city of the same name in the government of Bessarabia, Russia. The city is situated on the Dniester close to the frontier. It is noted historically as the scene of the severe defeat which John Sobieski administered to the Turks in 1673. For the most part the district is given over to agriculture, and the town is, in consequence, little more than a centre of local trade, which has increased in importance but little for years. Pop. about 25,000.

KHUEN-BELASI-HEDEVARY, Charles (Karoly), COUNT, Hungarian statesman: b. Freiwaldau, Upper Silesia, 1849; d. 1914. Soon after graduation he began to take a great interest in public life and, at the age of 25, he became a member of the Hungarian House of Deputies, representing the Liberal party; and seven years later he fell heir to the title of Count of Raab. Shortly afterward he became governor of Croatia (1883–1903). In his score of years in this important office, in which he seems to have had the unqualified support of the Austrian government, he displayed a constant inability to understand the people and a facility for antagonizing them that amounted almost to genius. Finally, in 1903, he was appointed by the emperor Premier of Hungary. But his national unpopularity and his native want of tact and constructive ability made it impossible for him to maintain the confidence of the people, and his short-lived government (26 June–3 November) was forced to resign without accomplishing anything. The following two years Khuen held office in the Tiza Cabinet. Through the favor in which he stood with the emperor, he again became Minister-President of Hungary, a position that gave him great power, which he once more misused. He again failed to agree with the House, which he antagonized by his autocratic conduct and haughty bearing. After constant administrative troubles, he was again forced to resign in 1912. From this time on he dropped out of sight, and disappeared from public life.

KHUFU. See CHEOPS.

KHUSRAU I, a Sassanian king of Persia who reigned from 521 to 579, and during most of these years carried on wars against the Byzantines. To the Byzantines he was known as Chosroes I. See KHOSRU I.

KHUZISTAN, koo-zē-stän', Arabian province in western Persia, lying between Luristan, Ispahan, Faristan, Asiatic Turkey and the Persian Gulf. From the lowlands in the east, which are often wet and unhealthful, the country rises into a hilly, healthful climate in the west. Unlike much of the surrounding territory, Khuzistan is but comparatively sparsely populated and most of the inhabitants are Arabs, many of whom are still nomadic. In the more fertile portions of the upland regions rice, barley, wheat, maize and other grains, cotton, indigo and fruit are the chief products. Among the manufacturing activities of Khuzistan are cotton and woolen goods, carpets and silk cloths. This activity is confined, for the most part, to the chief cities, Dizful, Shuster and Mohammerah. Area about 40,000 square miles. Pop. 200,000.

KHVOSHTSCHINSKAYA, kvōsh'schĕns'-kĭ-ä, **Nadezha Dmitrievna,** a Russian writer: b. Ryazan, 1825; d. 1889. She began writing under the pseudonym of V. Krestovski, a designation which she long continued to use. She was one of the most notable of the Russian realists of the middle of the 19th century, and her power of vivid description and intimate knowledge of Russian life gained her great popularity with her countrymen, especially with those belonging to the middle classes. The Russian country life she knew intimately and depicted with a vividness never before shown by any native woman writer of Russia. Through the *Annals of the Fatherland* she appealed to a very large audience for many years, so that at last she became an institution of that publication, which takes, in Russia, the place occupied in the United States and Great Britain by the monthly magazine. Many of her most important works first appeared in this magazine, more especially those depicting rustic life and characters. Many of her stories have been translated into Russian and several of them into most of the languages of Europe. Some have been retranslated from German or French into English. Among her most important published works are 'The Great Bear,' 'In Trust of Better Things,' 'From the Immediate Past.' Numerous editions of her works have been published in Russia, the first appearing in Saint Petersburg in 1883. A fairly complete edition also appeared in Italian shortly before her death, and from this some of the French translations were made. See any good history of Russian literature; also Koltonovskaya 'Feminine Silhouettes' (Saint Petersburg 1912).

KHYBER, kī'bẽr, or **KHAIBAR PASS,** a mountain pass on the frontiers of India and Afghanistan, leading from Punjab to Jelalabad and Cabul. The pass—a narrow defile—winds northwest through a range of hills, called by the same name, for a distance of about 33 miles and forms the bed of two streams, the one flowing northwest, the other south-southeast. It is at one part as narrow as 40 feet in width, ranging up to 450 feet wide, and in

many places the hills on either side are quite precipitous and inaccessible, rising at one point to the height of 1,300 feet. At 9½ miles distance from the Indian entrance of the pass is the fort of Ali Masjid, which has several times been taken by the British from the Afghans, during the wars of 1839–42, 1878–80 and the Afridi campaign of 1897. The highest point of the pass is Lundi Kotal, 3,373 feet above sea-level. The pass forms the northern military route from India to Afghanistan, and is now under British control. Consult 'Imperial Gazetteer of India' (Vol. XV, Oxford 1908).

KI-TSE, kē'tsĕ, **CHI-TSE,** or **KI-JA,** VISCOUNT KI, Chinese statesman who flourished about the middle of the 12th century B.C. Tradition credits him with being the founder of Korean civilization and an ancestor of the Chinese philosopher and religious teacher Confucius. Semi-legendary semi-historical accounts of his life show him as a man of great strength of character and determination coupled with honesty of purpose. According to these accounts he attempted to reform the licentious Chinese Emperor Chow-sin (1154–1123 B.C.), who had developed into a ferocious and bloody tyrant, and being imprisoned for his pains until the overthrow of Chow-sin. Liberated from prison by the conqueror, Wu-Wang, Ki-tse still remained loyal and faithful to his sovereign and sooner than remain under the domination or submit to the government of the new ruler of China, he is represented as going off with his thousands of adherents far eastward and there founding a new kingdom in what is now modern Korea. The capital of this new kingdom was Ping-yang, situated on the Ta-Dong River, where the remains of a very ancient tomb are still pointed out to the tourist and visitor as his. There seems to be some doubt as to whether Ki-tse ever really existed, or if he did, that he performed all the things attributed to him. In fact the catalogue of his doings reads very much like those attributed to the legendary hero ancestors or culture gods of so many races. He was to the Koreans what Moses was to the Jews, their great law-giver, leader, and, in a sense, prophet. He taught them most of the important activities of their national life, among them agriculture, in all its branches, and especially the rearing of the mulberry tree and of silk worms, the manufacture of silk, including its spinning and weaving. Ki-tse seems to have been more than a law-giver and teacher of industrial activity, for he is credited with having formulated the Korean conception of morality, the proper relations of man to man and to society and the court; and he is credited with having laid great stress upon honesty and integrity in all the relations of life. 'The Great Plan' or 'Book of History' (Shu-king) is attributed to him by the Koreans. It is more than probable that Korean civilization was largely derived from China, but there is nothing in Chinese history which would back the Korean story of the coming of the founder and philosopher Ki-tse. In fact the account of his wanderings and of his forced exile from his own country is exactly in line with the adventures attributed to most of the great culture heroes of the world; and the myths that have become attached to him are in no respect different from those that cluster around the other known culture heroes and fabled ancestors of nations. Like most of the culture gods he had to struggle against evil to bring good to the people he had chosen to honor with his favors and his gifts of the knowledge of civilization. For the legendary stories of Ki-tse consult any good history of Korea; and for 'The Great Plan' consult 'Chinese Classics' (Vol. III, Hongkong 1865).

KIA-K'ING, kyă'kĕng, or **CHIA-CH'ING,** chyă'chĕng, the 5th emperor of the last Manchu dynasty of China; began to resign 1796; d. 1820. It was probably to him more than to any one other ruler of his dynasty that the downfall of the Chinese imperial family was due. He showed little ability for government; he neglected affairs of state in favor of the prosecution of his own dissolute pleasures and he consorted with people of more than questionable morality in preference to those who might have enabled him to steer amidst the rocks of politics that threatened to wreck the ship of state. Not only did he neglect altogether the business of government but he managed, by his senseless conduct, to stir up family feuds and he thus estranged from him many of his best friends and those who had been supporters of the royal family through a long line of ancestors. This line of action weakened the power of the ruling classes over the masses of the Chinese people and prepared the way for the revolution which followed many years later. His actions and his conduct were imitated by subsequent rulers of China and thus the empire plunged headlong to her fate. The evidence of the decay of the influence and solidarity of the royal power was seen in the insurrections through the country, in plots against the emperor and the royal family and in the general unrest of the nation. The incompetency of the emperor led to disorganization in the resources of the country and to the maladministration of its laws and affairs. Pirates and smugglers played havoc with the revenue of the crown which soon proved insufficient for the needs of the government and of the dissolute monarch, who was forced to use illegal means to increase his income. This led to further discontent and unrest on the part of the Chinese people and to further plots and insurrections. One of the acts of Kia-King which brought him to the attention of Europe perhaps more than any other movement of his reign, was his persecution of the Roman Catholic missionaries who had acquired a certain amount of influence during preceding reigns. He accused them of meddling in the political affairs of the country; and on this charge he expelled many of them from China. It may be that our opinion of Kia-King is too highly colored as our information relative to his reign comes, for the most part, from his enemies. But even allowing for all this, the fact remains that he left to his successor, Tao-Kwang, in a thoroughly disorganized condition a country which he found, on his accession to the throne, fairly prosperous and contented. Consult Giles, 'China and the Manchus' (Cambridge 1912).

KIABOUCCA, KIABOOCA, KYABUCCA, a beautiful mottled wood coming, for the most part, from Moluccas and Guinea, though it is also found in other countries. It is formed much in the manner of curly maple

and other similar woods, by the union of the branch with the tree or through excrescences on the outer part of the trunk and larger limbs. The darker shades of Kiaboucca resemble the lighter shades of gateado wood of Mexico and the Central American countries, while the lighter shades run into varying yellows or reddish yellows and oranges. This gives it a very rich appearance which makes it valuable for cabinet work and fancy caskets of various kinds, among them snuff and tobacco boxes. Wood of a somewhat similar appearance is to be found in India, though the Indian shades are neither so rich in color nor so varied in shades and combinations of shades. These Indian woods are obtained from the *Petrospermum rubiginosum* and the *Petrospermum suberifolium* and several other allied trees all of which produce valuable cabinet or building woods. Some of these have been successfully exported from India to Europe and there employed in the manufacture of fancy furniture. In general the representatives of these Indian woods in Guinea and Moluccas, with the one exception of the kiaboucca, have not been, to any extent, used outside their native country. Kiaboucca is frequently known on the market as Amboyna wood.

KIAKHTA, kē-ak'ta, a town in Transbaikalia, Siberia, Russia, not far from the Chinese border. It was originally surrounded by a wooden wall but the growth of the original trading station has been so great that it has spread beyond the fortress enclosure. Previous to 1860 it was the chief point through which the trade between Russia and China passed. The tea trade, which formed the chief international business of Kiakhta, amounted to over $10,000,000 yearly in 1895. Since then this trade has declined to some extent, and with it went, for some time, the prosperity of the city, which had declined in inhabitants to about 5,000 in 1895. But since then Kiakhta has again begun to prosper on account of the rapid growth of Siberia and the general extension of trade, commerce and agriculture throughout the more habitable parts of these great eastern Russian domains. Pop. 32,000.

KIAMIL PASHA, Turkish statesman: b. Cyprus, 1833; d. there, 14 Nov. 1913. The son of an artillery officer, he was educated at the military school at Alexandria, Egypt, devoting himself mainly to the study of languages. Besides his native tongue, he learned English, French, Arabic, Greek and Persian. His first post was that of dragoman (interpreter) to the governor of Crete; after holding various offices in Cyprus and several governorships he became Minister of the Interior at Constantinople in 1878, followed by three other ministerial portfolios. From 1885 to 1891 he was Grand Vizier, and again in 1895 for a few weeks, when he was dismissed and made governor of Aleppo and later of Smyrna. Suspected of liberal views, he was deposed in 1907 and declared exiled. He took refuge at the British consulate, and after the intervention of the British Embassy was allowed to return to Constantinople. He was again made Grand Vizier after the revolution of 1908, but resenting the dictation of the Young Turk Committee he dismissed the ministers of War and Marine in 1909, which led to a censure by the Turkish Parliament and his resignation. For the fourth time he was called to the helm of state in 1912 in succession to Ghazi Mukhtar Pasha. In January 1913 he was driven from office by the Young Turk *coup d'état* and retired to Cyprus, where he died the same year. Kiamil Pasha was a cordial friend of Great Britain, and it was his boast that he had been a reader of *The Times* for over half a century.

KIANG, kē-äng', **DZIGGETAI** or **KULAN,** the large wild ass of Tibet and Mongolia, characterized by its large size (11 to 12 hands high), dark reddish color and the narrowness of the black stripe along the spine; some have faintly barred legs. They dwell upon the lofty, sterile plateaus north of the Himalayas, moving about in bands which travel at amazing speed over the stony plains and up and down the steep hillsides, feeding mainly on twigs of woody desert plants, and acquiring great hardiness. They are hunted by the Mongols as game, yet are not shy as a rule, coming close to a traveling party or camp, apparently actuated by extreme curiosity, unless driven away. The voice has been described as like the neigh of a horse; but the general and truer opinion is that it is more nearly the shrieking bray of the ass. The animal is nowhere domesticated, except a few captive specimens in zoological gardens. See ONAGER.

KIANG-SI, kē-äng'sē, or **KIANGSE,** an island province of China. It is bounded on the north by Hupeh and Ngan-Hui, on the east by Che-Kiang and Fu-Kien, on the south by Kwang-Tung, and on the west by Kwang-Si and Hunan. The area is 69,480 square miles. The province contains the treaty port of Kiu-Kiang on the Yang-tse-Kiang. The Nan-Ling or Southern Mountains traverse the eastern half of Kiang-Si, and in the north is the large inland lake of Po-Yang-Hu. Here are established famous manufactories of porcelain. The principal river aside from the Yang-tse-Kiang, is the Kin-Kiang. The province produces tea and silk and tobacco. There is great mineral wealth, especially of copper and iron. The English have large railway concessions. There are telegraph lines connecting the treaty port with other centres of commerce. The capital is Manchang. Pop. 16,255,000.

KIANG-SU, kē-äng'soo, an important maritime province of China proper, bounded north by the province of Shan-Tung; east by the Yellow Sea; south by the province of Che-Kiang, and west by the provinces of Ngan-Hui and Ho-Nan. Kiang-Su has an area of 38,600 square miles (about that of Pennsylvania). The great commercial importance of this province is denoted by its possession of four treaty ports, Shanghai, Nankin, Su-Chau and Chin-Kiang. Kiang-Su was in fact the first province opened to foreign commerce by means of a treaty port. It is traversed almost its whole length by the Grand Canal, the ancient Chinese system of canalized rivers and lakes. The British have valuable railway concessions and the Germans claim mining rights here. Half the foreign population of China is established in this province.

The Yang-tse-Kiang empties into the sea through this province and enables it to control

the trade of all southern China. Possessed of a soil of great fertility it is famous for its production of rice and silk. There are large cotton mills. The capital of the province is Nankin, which was formerly the capital of the Chinese empire. The Tai-Ping rebellion of 1853–54 had its headquarters in this province. Kiang-Su is rapidly becoming the centre of Chinese manufacturing industries, especially in textiles. Commercially, the province is controlled by the English, who have invested largely in railways, mills and government concessions. Pop. estimated 15,380,000.

KIANGANES, a Philippine tribe. See QUIANGANES.

KIAO-CHAU, kē-ä-ō-chow', or **KIAO-CHOW,** a Chinese walled city and the name of a German leased territory which since 1915 has been held by Japan. The territory lies around the shores of Kiao-Chau Bay on the east coast of the province of Shan-tung and the city lies outside the German sphere of influence. The bay is some 15 miles from east to west and from north to south, and has deep water anchorages in its southeastern portion. The territory of Kiao-Chau was seized by Germany in November 1897 in retaliation for the murder of two German missionaries by the Chinese, and in March 1898 Tsing-tau harbor, on the east of the bay, and the district adjoining, about 200 square miles, were transferred to Germany by treaty on a lease for 99 years. It was then declared a protectorate of the German Empire, placed under control of the navy department, and declared a free port. The territory comprises 33 townships, with a population of 192,000. Around the leased territory is a neutral zone, 2,500 square miles in area. Great improvements and construction works were then set on foot; a sum of $7,000,000 was expended on the harbor of Tsing-Tau, a great floating dock being constructed. An excellent water supply, electric lighting and telephone service were introduced into the city. The city was placed in 1906 under the Chinese Maritime Customs, 20 per cent of the receipts to be handed over to the German authorities. A railway was constructed from Tsing-Tau to Tsinang, 252 miles in length, through the Shantung province, tapping a rich agricultural and mining section. The revenue of the protectorate in 1914 was £463,000, and expenditure £920,500. In 1913, 923 vessels cleared at Tsing-Tau (pop. 34,000), with a tonnage of 1,298,622 tons.

On 16 Aug. 1914, after the outbreak of the Great European War, Japan called upon the German authorities to deliver up the leased territory by the 15th of September, and on 23 August declared war. The investment began on 27 August, and after a heroic resistance on the part of the German garrison, the city surrendered to the combined Japanese and British forces on 7 November, and since that time it has been occupied by the Japanese. On 25 May 1915, it was announced that, following on negotiations between China and Japan, the territory would be returned to China on the conclusion of peace, on condition that the German privileges in the leased territory be transferred to Japan. The Chinese Maritime Customs was re-opened on 6 Aug. 1915. The number of Japanese residents on 20 April 1915, exclusive of military, was 9,264.

KIBITKA, a covered carriage without springs used in Russia; also the name of a tent used by the nomad tribes of Kirghiz Tartars.

KIBLAH, or **KEBLAH,** the point toward which the Mohammedans turn their faces in prayer. The term literally means "to lie opposite" and is derived from the Arabian "kabala" which bears this meaning, it being understood that the point indicated is opposite to the south. This point is, for those at a distance, the temple at Mecca, or rather the Kaab (q.v.) contained therein. It is said that Mohammed changed three times the direction in which his followers should face when praying. Finally he settled upon the Kaab (16 Jan. 624).

KICKAPOOS, a tribe of Algonquin Indians, formerly occupying a portion of the Ohio Valley. They were a powerful nation in the early history of that region, and were constantly in arms against the whites until in 1819 they concluded the sale of most of their lands and removed to the Osage River Reservation in Kansas. In 1852 a considerable number of them went to Texas and from there to Mexico; some of these returned, however, and settled in the Indian Territory. See INDIANS.

KICKHAM, kĭk'ăm, **Charles Joseph,** Irish novelist: b. Mulinahone, County Tipperary, 1836; d. 1882. He was very active in anti-government and revolutionary circles; and he appeared, at the age of 22, prominently in the Young Ireland Movement. He received a warning, and later on he was arrested, tried and convicted of treasonable acts and sentenced to fourteen years' imprisonment (1865), only four years of which he served when he received a pardon. Previous to his arrest he had been active in the editorial department of *The Irish People,* the Fenian organ; but, on his liberation from prison he did his best to keep faith with the governmennt. Then began the most active and brilliant period of his public career. He possessed a strange, tragic, though somewhat uncontrolled power which required only more mastery on his part to have made of him a notable novelist. Among his published works are 'Sally Cavanagh' (1869); 'Knocknagow' (1879); and 'For the Old Land' (1886). These are all characteristically Irish in their humor, their power of minute and careful observation, and the spirit of romance coupled with a depth of homely feeling which makes him one of the best delineators of Irish peasant and country life.

KICKING BIRD (TENÉ-ANGPÓTE), Kiowa Indian chief: b. about 1810; d. 5 May 1875. His grandfather was a Crow captive who had been adopted into the Kiowa tribe. The youth early distinguished himself by his mental gifts. He also won fame as a warrior but saw the hopelessness of the struggle with the whites and used all his influence to induce the tribe to submit to the inevitable. He signed the first agreement to accept a reservation on 15 Aug. 1865 at Wichita, and the treaty concluded at Medicine Lodge 21 Oct. 1867, definitely fixing the Kiowa-Comanche-Apache reservation in the present Oklahoma. He took no part in the resistance of the Indians to removal in 1868 nor in their raids into Texas. When the Federal authorities in 1873 failed to carry out their agreement to release the Kiowa chiefs

imprisoned in Texas, he lost faith in the government and was induced to join the hostiles for a short period, but later he induced two-thirds of his tribe to return to the agency at Fort Sill, and thereafter he was recognized as the head chief of the Kiowa. In 1873 Kicking Bird invited and assisted in the establishment of the first school among the Kiowa. He died suddenly, by poison, according to the suspicions of his friends and at the request of his family was buried with Christian rites.

KIDD, Benjamin, English sociologist: b. 9 Sept. 1858. He entered the inland revenue service of Great Britain in 1877, and rose to sudden fame by the publication of 'Social Evolution' in 1894. The volume was translated into most of the languages of Europe and gave rise to considerable controversy, President Roosevelt publishing a series of papers in opposition of the views propounded in it. Its main proposition was that high moral and religious development in society was a process that ran exactly contrary to natural evolution and the Darwinian process of survival. He has also published 'The Control of the Tropics' (1898); and 'Principles of Western Civilization' (1902); 'Herbert Spencer and After' (1908); 'Two Principal Laws of Sociology' (1909).

KIDD, John, English writer and geologist: b. London, 1775; d. 1851. Graduated in medicine at Oxford he became assistant in chemistry at the latter university (1801–03) and professor of the same subject (1803–22); regius professor of medicine (1822–34); and keeper of the Radcliff Library (1834–51). Though his main work was devoted to chemistry he also lectured on geology and mineralogy in which he took a very active interest and toward the popularization of which he contributed very considerably. Among his published works are 'Outlines of Mineralogy' (2 vols. 1809); 'A Geological Essay on the Imperfect Evidence in Support of a Theory of the Earth' (1815); 'Adaptation of Eternal Nature to the Physical Condition of Man' (1833); 'Medical Reform' (1841); 'Further Observations' (1842).

KIDD, William, American pirate: b. probably Greenock, Scotland, about the middle of the 17th century, executed London, 24 May 1701. He appears to have followed the sea from his youth, and about 1695 was known as one of the boldest and most successful shipmasters that sailed from New York. At this time the depredations of pirates upon British commerce had become so extensive that a company was organized in England, in which William III and several noblemen were shareholders, to fit out an armed vessel for the purpose of suppressing the practice, as well as of deriving a profit from recaptures. Kidd, who had obtained some experience as captain of a privateer against the French, received a commission signed by the king, and directed to "the trusty and well beloved Captain Kidd, commander of the ship *Adventure Galley*," a vessel of 30 guns. Sailing from Plymouth, England, in April 1696, he cruised off the American coast for some months, occasionally entering New York, and finally sailed for the East Indies and the east coast of Africa. Upon his way he resolved to turn pirate, and finding his crew not averse to the project, forthwith commenced a career of plunder and outrage among the shipping which frequented the coasts of Malabar and Madagascar, returning in 1698 with a large store of booty to New York. He took the precaution to bury a portion of his treasure on Gardiner's Island at the east end of Long Island, and subsequently went to Boston, where he boldly made his appearance in the streets, not doubting that under his commission he could clear himself from any charge of piracy. Such, however, had been the scandal which the report of Kidd's depredations had caused in England, that the Earl of Bellamont, governor of Massachusetts and New York, and one of the shareholders in the enterprise, caused him promptly to be arrested and conveyed to England for trial. The charge of piracy was difficult to prove; but having been arraigned for killing one of his crew, named Moore, in an altercation, he was convicted after a grossly unfair trial, and hanged at Execution dock. His name and deeds have been interwoven into popular romance, and form the subject of the well-known ballad commencing: "My name is Captain Kidd, as I sailed, as I sailed," many of the incidents of which, however, are apocryphal. The treasures he had left, consisting of 738 ounces of gold, 847 ounces of silver, and several bags of silver ornaments and precious stones, were secured by Bellamont. But according to popular belief this inconsiderable amount constituted but a tithe of all he had collected, and down to the present time the shores of Long Island Sound and various parts of the banks of the Hudson River continue occasionally to be explored in the hope of discovering the abandoned wealth of the great pirate.

KIDDER, Daniel Parrish, American clergyman and educator: b. Darien, N. Y., 18 Oct. 1815; d. Evanston, Ill., 29 July 1891. He was educated at Hamilton College and Wesleyan University. He entered the ministry of the Methodist Episcopal Church in 1836. He was missionary to Brazil 1837–40. The death of his wife necessitated his return to the United States with his two little children. After brief pastorates in Paterson and Trenton, N. J., he was elected secretary of the Sunday School Union of the M. E. Church, 1844–56. At the same time he was editor of the Sunday School publications and tracts of the Church; professor of Practical Theology in Garrett Biblical Institute, Evanston, Ill., 1856–71; professor of Practical Theology in Drew Theological Seminary, 1871–81; secretary of the Board of Education of the Methodist Episcopal Church, 1880–87, resigning because of poor health. He was editor of the *Sunday School Advocate*, 1844–56. While secretary of the Sunday School Union he edited 819 volumes. He was a prolific writer. His most important works are 'Brazil and the Brazilians' (8th ed., 1857, 1868); 'A Treatise on Homiletics' (1864; rev. ed., 1868); 'The Christian Pastorate' (1871); 'Helps to Prayer' (1874).

KIDDER, Frederic, American historical writer: b. New Ipswich, N. H., 1804; d. Melrose, Mass., 1885. He was an authority on the language and religion of the New England Indians, and published 'The Expeditions of

Capt. John Lovewell' (1865); 'History of the First New Hampshire Regiment in the War of the Revolution' (1868); 'History of the Boston Massacre' (1870); etc.

KIDDER, Kathryn, the stage and family name of Mrs. L. K. Anspacher, American actress: b. Newark, N. J., 1868. After having studied dramatic art in New York, London and Paris she made her debut as Lucy Fairweather in 'The Streets of New York' by Mayo, in Chicago in 1885. Her success was almost instantaneous; and she followed it up by playing the leading rôle in 'Davy Crockett' also by Mayo. Among the other characters which she played successfully are Wanda, in 'Nordeck'; Rachel McCreery in 'Held by the Enemy'; Dearest, in 'Little Lord Fauntleroy'; 'Mme. Sans Gene'; 'Lady Teazel'; 'Lydia Languish'; 'The Country Girl'; the Shakesperian characters, Helena, Ophelia, Lady Macbeth, Desdemona, Portia, Hermione, Perdita, Rosalind; Molly Pitcher; Francillon; Princess George; Salammbo; Elizabeth in 'Embarrassment of Riches'; Leonora in 'A Woman of Impulse'; Elinor, in 'The Glass House' (1911); Katherine, in 'The Washerwoman Duchess' (1912).

KIDDERMINSTER, a city in Worcestershire, England, on the Stour River. It is noted for its carpets which are famous the world over. This industry which dates back to 1735 has gradually increased in importance and efficiency until now it is one of the largest and best conducted in the world. Already when the carpet industry first began in Kidderminster, the town was an incorporated place and its own establishment dated back as far as the Norman Conquest of England if not to an earlier date. It is probable that the making of carpets there had really begun before the date usually given as that of the establishment of the industry there, as it was a favorite town with the Norman aristocracy of the neighborhood who were given to patronizing the continental arts and crafts. The city has canal and rail communication with Hull, Bristol and Liverpool with which it does considerable business. Kidderminster has other very active industries besides that of carpets, among them being spinning and weaving mills, tin-plate factories and dye-works. Among the persons of note who were born in Kidderminster are Roland Hill, father of cheap and universal postage, and Richard Baxter the noted and eloquent nonconformist minister. The trade between the United States and Kidderminster is considerable and the former keeps a consul there. Pop. 25,000.

KIDDERMINSTER CARPET, so called from being made in the town of that name in England. Another of its names, ingrain, signifies that it is made of wool or worsted dyed in the grain; that is, before manufacture. Its names two-ply or three-ply indicate the number of webs which go to the making of the fabric.

KIDERLEN-WAECHTER, kē'dĕr-lĕn-vek'tĕr, **Alfred von,** German Foreign Minister: b. Stuttgart, 1852; d. there, 30 Dec. 1912. The son of a banker, he served in the war of 1870 and afterward studied law. He entered the Foreign Office in 1879 and some years later accompanied the emperor to Russia, Sweden and Denmark. He was minister in the free town of Hamburg in 1894, in Copenhagen 1895–96, and later at Bucharest. In Rumania he gathered a deep knowledge of Eastern politics, which led to his acting temporarily as ambassador at Constantinople and as chief at the Foreign Office. He became Foreign Minister in 1910. He conducted the Agadir negotiations in 1911 and was severely criticised both at home and abroad for his provocative attitude in the *Panther* incident. He succeeded, however, in relieving the strained relations between Germany and Great Britain, and endeavored to make a friend of Russia. See Morocco.

KIDNAPPED, by Robert Louis Stevenson, purports to be, as the subtitle sets forth, the "Memoirs of the adventures of David Balfour in the year 1751; how he was kidnapped and cast away; his sufferings in a desert isle; his journey in the wild Highlands; his acquaintance with Alan Breck Stewart and other notorious Highland Jacobites; with all that he suffered at the hands of his uncle, Ebenezer Balfour of Shaws, falsely so called." This romance, with a hero bearing a name taken from his own family tree, Stevenson declares to be the only one of his books in which "the characters took the bit in their teeth" and spoke and acted out the story for themselves. "I began it," he confesses, "partly as a lark, partly as a pot-boiler, and suddenly it moved, David and Alan stepped out from the canvas, and I found I was in another world." Because of the author's illness, the story, published in 1886, was broken off short with the return of the hero and the discomfiture of the wicked uncle. It was concluded in a sequel published in 1893 under the name of 'David Balfour' in the United States, and 'Catriona' in Great Britain. 'Kidnapped' owed its success largely to the admirable portrayal of the Highlander, Alan Breck. Matthew Arnold was delighted with it, and Andrew Lang pronounced it "a volume containing more of the spirit of Scott than any other in English fiction."

Arthur Guiterman.

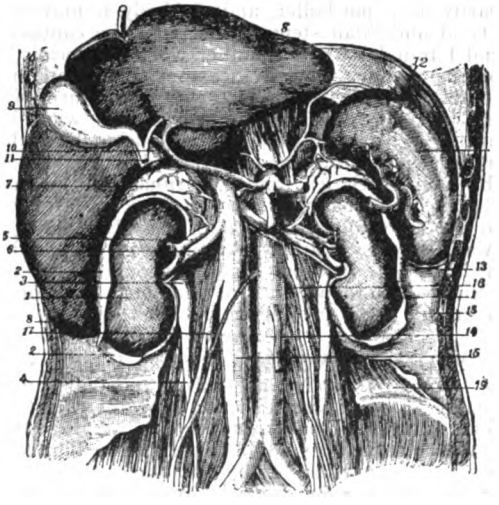
KIDNAPPING, though not a legal term, is frequently applied as such in popular language, both in Great Britain and the United States, to the offense of stealing or carrying off by force a child or adult. In its more limited sense, it is applied to the obtaining of slaves or native labor by force, as practised by the Arabs in Africa. This barbarous traffic existed in very recent years in the South Seas, carried on by Europeans, but now happily suppressed by the appointment of government labor agents. In Great Britain this term was formerly also applied to the illegitimate recruiting for the army and navy. See Abduction.

KIDNEY BEAN, a bean of the genus *Phaseolus,* of which European species and varieties have been cultivated from a time immemorial. (See Bean). The wild kidney bean of the United States is a high-climbing vine (*P. polystachyus*), bearing small purple flowers. The so-called "kidney-bean tree" is *Wistaria* (q.v.).

KIDNEY-ROOT, the purple boneset (q.v.).

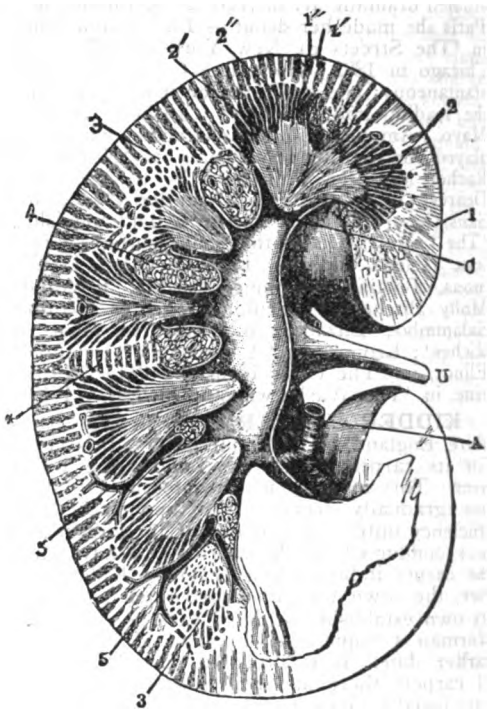
KIDNEYS, the principal excreting organs of the body. They are two in number, fixed at

the back of the abdominal cavity by a thick layer of fat and the peritoneum which passes in front of them; their lower border is slightly below the last ribs; they have an outer, upper and lower convex margin and an inner margin deeply indented, allowing the entrance of the renal artery and exit for the veins and ureter. This indentation corresponds to a considerable hollowing of the interior, which is occupied by the funnel-like origin of the ureter (the pelvis). The kidney is surrounded by a firm membrane called the capsule; inside of this is the substance proper, made up of a connective-tissue groundwork, in which are embedded the blood-vessels and the secreting glands called the uriniferous tubules. These tubules start in tiny rounded bodies (Malpighian bodies), and after an orderly arrangement of windings a number of the tubules form slightly larger tubules (collecting tubules), so grouped together as to form striated pyramids which have their apices projecting into the pelvis of the kidney. By a process similar to filtration the excess of water in the blood passes through these walls and out of the body. There is a similar arrangement of the blood-vessels around the winding tubules, but through these the solids in solution in the blood that are of no further use to the body are taken up by the epithelium of the tubules



1, 1, The two kidneys. 2, 2, Fibrous capsules. 3, Pelvis of the kidney. 4, Ureter. 5, Renal artery. 6, Renal vein. 7, Suprarenal body. 8, 8, Liver raised to show relation of its lower surface to right kidney. 9, Gall-bladder. 10, Terminus of portal vein. 11, Origin of common bile duct. 12, Spleen turned outward to show relations with left kidney. 13, Semicircular pouch on which the lower end of the spleen rests. 14, Abdominal aorta. 15, Vena cava inferior. 16, Left spermatic vein and artery. 17, Right spermatic vein opening into vena cava inferior. 18, Subperitoneal fibrous layer or fascia propria dividing to form renal sheath. 19, Lower end of quadratus lumborum muscle.

and added to the watery element inside the tubes. The purpose of the kidneys is the excretion of constituents, all of which are formed before they are delivered to the kidney by other organs, with the exception of hippuric acid, which alone is secreted by the kidneys themselves. Their duty, therefore, is to rid the blood of abnormal constituents or indeed any of its normal constituents if they or any of them occur in too great a proportion. This implies an extraordinary adaptability of the functions of the kidneys to the requirements of the animal organism. It registers and reacts to the formation by metabolism of substances soluble and non-volatile in every tissue of the body wherever located. When urea,



TRANSVERSE SECTION OF KIDNEY.

Cortex. 1′, Medullary rays. 1″, Labyrinth or cortex proper. 2, Medulla. 2′, Papillary portion of medulla, or medulla proper. 2″, Border layer of the medulla. 3, 3, Transverse section through the axes of the tubules of the border layer. 4, Fat of renal sinus. 5, 5, Arterial branches. A, Branch of renal artery. U, Ureter. C, Renal calyx.

uric acid or water is taken up from the surrounding lymph, it is discharged into the cavities of the kidneys, from which it is drawn off by the ureter into the bladder, where it is stored until a time suitable for its ejection. Not only is this the case, but if for any reason too much of any given ingredient has been taken out of the blood it is returned. As an exact measurement it is interesting to note that about 1,700 litres of blood flow through the two kidneys in a living human each 24 hours, and from the blood 30 litres of waste matters are finally taken out and ejected. The ureters are about 16 inches long, with the diameter of a goose-quill; they are lined by a mucous membrane, outside of which there are thin muscular and fibrous layers of tissue.

Urine.—The urine is an amber or yellowish fluid containing about 95 per cent of water, having a specific gravity of 1.018 to 1.025, an acid reaction and rather characteristic ammoniacal odor. The inorganic solids held in solution are the chlorides, phosphates and sulphates of sodium, magnesium, potassium, calcium and iron. More important than these is a group of substances elaborated in the body during meta-

bolism (q.v.), some of which may act as poisons if not properly discharged; the principal ones being urea, uric acid, creatinine, hippuric acid and the xanthin bases. That of most importance is urea, which should in normal adults be excreted to the amount of 500 grains daily. In certain forms of kidney disease the deficiency of this substance is taken as an index of the organ's impairment in respect to this one function. Other disturbances of function are tested by other tests. Thus chloride retention or water retention are other types of disordered function.

Visible Abnormalities of the Urine.—While the average amount of urine passed by a healthy adult in 24 hours is 50 ounces (three pints), there are constant variations from this rule, depending on the amount of water ingested and the amount lost through the skin and bowels; so also do the amount of solids vary with the diet and amount of exertion. White cloudiness of the urine may be caused by the presence of pus, phosphates, mucus or bacterial growths. Reddish or "brick-dust" deposit is caused by an excess of urates, a condition ordinarily of no importance and never an indication of kidney disease. There is apt to be a diminution of the amount of urine in nephritis and a great increase in diabetes.

Albumen in the urine is the serum albumen of the blood. In health the kidneys may allow the passage of faint traces of this substance, but the presence of amounts large enough to be discovered by the "heat and nitric acid" test usually indicates some abnormality of the epithelium of the tubules — congestion of these organs, inflammation of the ureter, bladder or urethra, or an admixture of blood with the urine. Albumen may appear in the urine after severe exertion without apparent congestion of the kidneys. Certain individuals go on for years showing albumen in the urine at certain times of the day and never develop any further evidence of Bright's disease. In some persons certain articles of food, particularly those rich in albumen, cause a temporary albuminuria. Although these forms are called "functional," there is always a possibility that they may indicate some slight kidney impairment and it is the custom of the insurance companies to refuse applicants with albuminous urine.

Urinary casts are tiny cylinders or plugs formed in the uriniferous tubules under abnormal conditions. They are formed of coagulated albumen, blood and epithelial cells, granular matter the result of epithelial cell degeneration, and so-called waxy matter. The clear "hyaline casts" may sometimes be found in small numbers in the urine from normal kidneys, but the constant presence of casts indicates a disease of the kidneys. These bodies are entirely invisible to the naked eye.

Uræmia.— This term denotes a group of symptoms that may appear in the course of diseases of the kidneys and during pregnancy. (See PUERPERAL ECLAMPSIA). Some toxic substance is held in the blood and causes one or more of such symptoms, which may not be characteristic of uræmia but to which, because of the general complex of symptoms and the known condition of the urine, the term uræmic is applied. The various symptoms which it is customary to include in the category are headache and sleeplessness, hemiplegia and aphasia, general convulsions and spasms of groups of muscles, blindness, delirium and coma, vomiting, dyspnœa and increased arterial tension. This last condition is due to spasm of the smaller arteries and to hypertrophy of the heart.

Diseases of the Kidneys.—Acute congestion may result from sudden obstruction of the veins, certain irritant poisons, exposure to cold, severe surgical operations, overexertion or from the infectious diseases. Besides the changes seen in the urine, albuminuria and casts, if the congestion be severe there may be fever, abdominal pain, nausea and vomiting and partial or complete suppression of urine. The treatment consists in the removal of the cause and the relief of congestion by the hot pack over the lower half of the body. In its severe forms the conditions may be fatal.

Chronic Congestion.— This condition results from obstruction to the venous outflow, as seen in disease of the lungs, heart and liver and from the pressure of tumors: it leads to actual change of structure.

Acute Nephritis, Acute Bright's Disease.— This is an inflammation of the vital part of the kidney structure, the secreting membrane of the uriniferous tubules and of the structures around them. In such an inflammation there is congestion of the whole organ, degeneration of the epithelial lining of the tubes, exudation of serum from the blood-vessels into the tubes and consequent disturbance of the function of the organ. The most common causes of this condition are exposure to cold and wet, the poisons of scarlet fever, pregnancy, etc., certain causes being undiscoverable. The condition may also be due to other infectious diseases, to the ingestion of poisons, or to the presence of large burns of the body surface.

Some cases are so mild that the kidneys are not suspected, the patient having a slight fever, headache, loss of appetite and general malaise. The ordinary cases show considerable diminution of urine, which is loaded with albumen and casts; there is considerable fever; nausea and vomiting are usual; and these are accompanied by more or less of dropsy, headache and other manifestations referred to under the name of uræmia, and by a rapidly developing waxy pallor. These various symptoms are not constant, but the picture is sufficient when the condition of the urine is investigated. As a rule, when this condition lasts only a few weeks these cases recover completely and the kidneys are as good as before, but the cases of longer duration and of great severity may be fatal, or may leave permanent changes in the organ. This last effect is particularly liable to follow when nephritis begins late in the course of scarlet fever, because of the permanent changes of structure induced by some particular poison generated at that time.

The treatment of these conditions consists in absolute rest, diet of the simplest sort, preferably milk, opening of the various emunctories (the bowels and skin) and attending to such symptoms as threaten the life of the patient.

Chronic Bright's, Chronic Nephritis.—This disorder is characterized by a permanent change in the tissue of the kidney, which may follow acute inflammation, or may come on insidiously as a result of poisoning by alcohol, of syphilis, of prolonged nervous strain, with consequent

disturbance of digestion and metabolism, of suppurative inflammations in other parts of the body and of many undiscoverable causes. The changes in the kidneys consist in growth of connective tissue around the glomeruli and tubules, more or less degeneration of the epithelium lining the tubes, and arteritis. The disease may be very insidious in development, albumen and casts being discovered on routine examination of the urine. Loss of nutrition may be noticed, or a disturbance of the gastro-intestinal tract may first call attention to the disease. The urine may be increased in amount or diminished, but as the disease progresses the specific gravity grows less from the decrease of urea. Dropsy appears around the ankles and spreads usually as the disease advances. Anæmia is fairly constant, but not severe. Sooner or later that general condition of poisoning known as uræmia is apt to develop because of the inability of the kidneys to excrete the toxic substances. Some cases suddenly develop one or more of the various symptoms, either dyspnœa, dropsy, failure of the heart's action, coma, convulsions or hemiplegia, without the nephritis having occasioned distinct symptoms previously.

Prognosis in Chronic Nephritis.— The prognosis is not necessarily bad, although as a rule the disease progresses and causes the death of the patient. Intercurrent diseases throw extra strain on the kidneys and may hasten a fatal termination. Many cases live for years in comparative health and are carried off by another affection. The actual prognosis of a case is determined by the work the kidneys are able to do on a known diet and under stated conditions of work. This is best determined by an estimation of the excretion of urea in a 24-hour collection of urine.

Treatment.— Many things can be done for a chronic nephritis. In the first place it should be remembered that the work done by the kidneys is really enormous. Millions of foot pounds of energy are utilized in kidney functioning. Then again it should be recalled that although the term chronic nephritis is a single term, it stands not for one disease, but for a large group of diseases, many of them quite different in causation. Some of these are difficult to treat, others are very fruitful in treatment. The group due to definite irritants, such as alcohol or syphilis, can be handled by getting at the causes of the alcoholism — which are usually mental — and thus relieving the double effect of mental strain and chemical poisoning. The syphilitic cases need proper medicinal treatment. The whole group of hyperadrenalemia nephritides, often on a mental basis, are particularly favorable to treatment by competent psychoanalysis. Such analysis can be performed only by a well-trained physician acquainted with the dynamics of the kidney function. Consult Cushney, 'The Secretion of Urine' (1917). Other types of chronic nephritis are as yet unanalyzed. They usually progress but are held in check largely by diet and hygiene. There are many ups and downs in the course of the various nephritides.

At the time of acute exacerbations symptoms are relieved as they arise and the skin and bowels are called upon to assist the kidneys in the work of excretion by diaphoresis (by the hot pack) and catharsis. When the output of urine becomes small, some benefit may result from the administration of diuretics. For the disturbance of the circulation arterial dilators and cardiac stimulants are employed, and sometimes bloodletting, with the greatest benefits.

Renal Calculi or Kidney-Stones.— See CALCULUS.

Tuberculosis of the Kidney.—This malady occurs in the form of tiny miliary tubercles scattered through the kidney, usually as a part of a general tuberculosis and in the form of a tubercular pyonephrosis due to extension from the bladder; more rarely the process may be primary in the kidney and then extend to the bladder. The symptoms are frequent micturition, pyuria, hematuria and occasionally the presence of a tumor. The diagnosis is difficult unless there be tuberculosis of the bladder, testes or seminal vesicles. Although the prognosis is always grave, cases have recovered where the kidney has been inspected but not removed. Nephrectomy is not performed unless the other kidney can be proven sound.

Injuries of the Kidney.— Severe contusions of the abdomen or loins may cause laceration of the kidney substance and the capsule, or the kidney may be perforated by stab or gunshot wounds. Slight contusions cause pain and transient hematuria, but the more severe contusions and wounds allow the urine to flow out into the surrounding tissue, sometimes with inflammation following. The wound may require sutures, or the kidney may have to be removed.

Suppuration in and around the Kidney.— This condition is due to the infection of the part with micro-organisms, which may reach the part in three ways — through the blood, from the bladder and through the perforating wounds. It is now commonly noticed that persons in health may pass bacteria through their kidneys without resulting suppuration; and it seems that some injury must take place to allow them to grow there and cause actual damage. Such damage may be made by calculi or contusions. Pylitis is an inflammation of the pelvis of the kidney and this part is first involved when the inflammation travels up from the bladder. Pyelonephritis is an inflammation of both pelvis and kidney structure. Pyonephrosis is the name used to describe the condition of dilatation of the pelvis and the kidneys with pus: the organ may be entirely destroyed. Perinephritis is an inflammation of the cellular tissue and fat around the kidney. In pyæmia there may be many small abscesses in the kidney substance.

The symptoms of these various forms depend on the severity and site of the inflammation: there are the changes in the urine (the presence of pus, blood and epithelium from the various parts), the local signs (pain and possibly swelling) and the general signs of poisoning (fever, rigors, septic look, nausea, vomiting, etc.). An abscess in the kidney may burrow through to the surface; it may drain sufficiently through the normal channels and become chronic; or the patient may die of acute sepsis.

In the treatment of the milder forms it may be sufficient to remove the cause; the bladder may be cleansed by irrigation; or if a penetrat-

ing wound be the cause it may be enlarged and cleansed. If there be a perinephritis or a severe pyelonephritis, the abscess-cavity must be drained. The kidney is removed (nephrectomy) if destruction has gone too far.

Movable or Floating Kidneys.— By this phrase is meant a condition in which the kidneys leave their fatty bed and travel downward or otherwise through the abdomen. In the milder grades of this condition the kidney is displaced downward during inspiration, but in the more severe grades one or both are constantly low, even down to the pelvis. No symptoms whatever may arise from this condition; but on the other hand the dragging on the vessels and nerves may give rise to pain in the back and sides, minor disturbances of digestion or nausea and vomiting. The nervous system is so deranged that it is common to have most confusing symptoms. Occasionally the ureter becomes twisted and dams back the urine, causing marked distention of the pelvis of that organ, a condition called hydronephrosis. When such an obstruction persists, the kidney structure is gradually thinned until its function is lost. It is customary to have the sufferer from a floating kidney wear a support around the abdomen; at times the operation of fixation of the kidney in its normal place may be advisable.

KIDO, kē'dō, **Takayoshi**, Japanese statesman: b. Hagi, Choshiu, 1832; d. Kioto, 27 May 1877. His father, a prominent physician, gave his son the best education obtainable in Japan in his day, and the boy, intelligent, quick and ambitious, made the best of his opportunities. Coming of a semi-noble family he found almost any office open to him that he cared to aspire to. He had a strong faculty for taking infinite pains and doing things well; and the story is told of him that when Commodore Perry's forces visited Japan in 1854, he secured employment with it disguised as a laborer in order to learn all he could about the western nation that seemed to be forcing upon Japan conditions for which she had no love nor inclination. He did his work so well and maintained his disguise so completely that he was never discovered. This feat was characteristic of the man. But the adventure seems to have changed the whole trend of his thought. His contact with western life in this intimate manner gave him an insight into western ways that set him thinking in a new direction; and the result was that he continued to study the new conditions and civilization that he had thus unexpectedly discovered, with the result that he became convinced that Japan could no longer afford to continue isolating herself from the world. The natural result was that in 1868 he finally joined the revolutionary party of which he became the greatest thinker and planner. With Okubo, Saigo and Iwakura he worked out the details of the *coup d'état* of 3 Jan. 1868, which placed a new government in power subject to the Mikado alone and in reality changed the whole trend of the life of Japan, political as well as social. This revolution overthrew the power of the daimios and caused the abolishment of the feudal system. As a result 270 daimios relinquished their feudal power and agreed to hold their landed property directly from the Crown. Thus Japan was placed, at one blow, on the road to that modern progress which astonished the western world. Kido, with his eyes ever turned westward, realized the power of the modern press and he founded the first real newspaper in Japan, the *Shimbun Zasshi*, which, under his able management, became a power for progress and modern ideas; and thus helped greatly to the leading of Japan along the pathway of western progress. This paper, founded in 1868, linked him firmly to western ideas; and turned his face ever westward. It also increased his desire to see and to know at first hand the civilization of which he had become, in a sense, in his own country, the champion. So, in 1873, he started out for a voyage round the world, as vice-president of a "traveling Japanese embassy," an idea of which he had himself been, in a sense, the sponsor. With him went another notable Japanese character, Prince Tomomi Iwakura (q.v.), one of the most intelligent of the Japanese revolutionary leaders. This world-wide trip made Kido a still stronger advocate of western civilization which he made every effort, through his court influence and his newspaper, to introduce into Japan. The translation which he had made of Montesquieu's 'L'esprit des lois,' which he caused to be published at his own expense, and which he largely advertised, did a great deal to influence the thinking class of the country in favor of a new and liberal constitution for Japan, which was finally secured in 1889. This constitution did away with the last vestiges of the feudal system and provided the machinery for a much more democratic administration of the affairs of the country, though it left it still firmly monarchial. Thus the result of his life-long labors bore fruit 11 years after his death. On his return to Japan in 1874, from his trip around the world, Kido became Privy Councilor to the emperor, a position which he retained until his death, and which enabled him to still further work for the ideas which had ever guided his life from the time he first made the acquaintance with western civilization through his first hand knowledge gained from his adventure with the Perry expeditionary party. His great qualities as a statesman and his single-heartedness in working for the good of Japan were recognized by posthumous honors during the exercises held in connection with the promulgation of the constitution of 1889 and in the raising of his son to the rank of a noble. Consult any modern history of Japan.

KIDRON, kē'drŏn, the Valley of Siloah (Wady Silwan), or the Valley of the Lady Mary (Wady Sitti Maryam), which lies to the east of Jerusalem, stretching from the foot of Mount Scipus north of the city, southward, then eastward, passing between Jerusalem and the Mount of Olives to En Rogel, south of the city, from whence it continues on southward to the Dead Sea under the name of Wady en Nar. The Valley of Kidron is frequently mentioned in Biblical narrative; and recent excavations show that it was, at one time, a place of much more importance than it is at present, for now it is the dried bed of a stream which flowed in Biblical times. Recent excavations show that the bed of the ancient stream now lies buried beneath nearly 40 feet of debris. An aqueduct cut into the rock in ancient times was

unearthed in 1880; and since then other evidence of the importance of the valley have been found buried beneath the sands that have blown in upon them. Among the important references to the Kidron are the following. When David fled from Absalom, he is credited with having crossed it; Absalom forbade Shimei to cross it; there Asa burned the idol which his mother had erected; and there Josiah also burned the ashera which had been taken from the temple; and there Hezekiah is said to have thrown into the Kidron the altars found in Jerusalem. Kidron is now a vast burial place and has been so for many years for both Mohammedans and Jews, because of the belief that this spot is to witness the last judgment; the territory has been divided up between the two creeds, the Mohammedans occupying the side toward the temple, that is to the west, while the Jews occupy that part toward the Mount of Olives, that is to the east. To the Christians the Valley of Kidron is of especial historical interest because, according to the account of John, Jesus visited a garden therein, in company with his disciples, shortly before his betrayal, judgment and crucifixion. Now that Palestine has passed out of the hands of the Mohammedans and that facilities for the excavation of the remains of the valley will undoubtedly be afforded, it is more than probable that work on uncovering the remains of the past importance of the valley will be undertaken.

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KIEFFER, kēf'er, **Henry Martyn,** American clergyman and author: b. Mifflinburg, Pa., 5 Oct. 1845. He was graduated from Franklin and Marshall College, Lancaster, Pa., 1870, and from the Theological Seminary there in 1873. Enlisting at 16 as a drummer in a Pennsylvania regiment he served three years, his experiences in that capacity appearing in his popular 'Recollections of a Drummer Boy' (1883). He was pastor of a German Reformed Church at Norristown, Pa., 1873–84, and held a similar pastorate at Easton, Pa., from 1884 to 1903. He was received into the Protestant Episcopal Church in 1904, and for a time assistant at the Church of the Ascension at Atlantic City, N. J., but is now retired. His works include 'College Chapel Sermons' (1891); 'First Settlers of the Forks of the Delaware' (1905); 'It is to Laugh' (1907); 'The Funny-Bone' (1910); 'Laugh Again' (1912); 'Short Stories of the Hymns' (1913). He was joint editor of the 'Reformed Church Hymnal' (1890).

KIEFT, kēft, **William,** Dutch administrator in America: b. Holland, about 1600: d. off the Welsh coast, 1647. He came as the fifth governor of New Netherlands, and arrived in the colony 28 March 1638. He was greedy, choleric, and tyrannous; began his administration by concentrating the executive power; and was soon involved in troubles with the Indians. In 1640 he despatched a force to murder the Raritan tribe. He was not wholly successful; the act was avenged, and when in 1643 he arranged for the destruction of the River tribe, which had sought the protection of the colony against the Mohawks, he deemed it wise to obtain sanction for the proceeding through the signatures of three citizens. A desolating war ensued, almost to the extinction of the colony. Public sentiment was strong against him, and he finally conceded the selection of a "Council of Twelve," who stood for the beginning of representative government in New Netherlands, but practically were figure-heads quite disregarded by the governor. The Puritans at the east and the Swedes at the west were making encroachments upon Dutch territory, and Kieft was finally recalled and succeeded by Peter Stuyvesant. On 16 Aug. 1647 he sailed for Holland with his enemy, Dominie Bogardus, who had denounced his tyranny, and whose services he had revengefully disturbed by having soldiers make noises under the meeting-house windows. The vessel was wrecked on the coast of Wales, and Kieft, Bogardus, and nearly all the rest on board were drowned. Kieft rebuilt Fort Amsterdam, improved the appearance of the settlement, and effected several administrative reforms.

KIEL, kēl, **Friedrich,** German musical composer: b. Puderbach, 1821; d. 1885. After teaching music and the ordinary branches in a public school and studying music between times, he attained a local reputation as a musician which finally enabled him to become a member of the orchestra of Prince Karl von Wittgenstein, where he made very rapid progress in many branches of music. He followed this up with further studies at Coburg and Berlin from 1842 to 1844. In the latter city he became, 26 years later, professor in the Conservatory of Music, a position he retained until his death. He composed religious music, a 'Requiem,' which is still popular, and numerous pieces for voice, instruments and orchestra. As a teacher of music he had considerable influence on the pupils of his day who centred in Berlin; and he was counted one of the best musical instructors in that city.

KIEL, Prussia, town and chief naval port of Germany in the Baltic. It is situated in Holstein on a deep bay with finely wooded banks, 70 miles by rail north from Hamburg. It was formerly the place of meeting for the Schleswig and Holstein states, and the seat of a superior appeal court for the duchies. The church of Saint Nicholas founded in 1240, and restored 1877–84, is the most noteworthy ecclesiastical building. The university, founded in 1665, has an attendance of some 2,000 students, is famed for its medical school, and contains a library of over 320,000 volumes. There is a museum of national antiquities, and a zoological institute. Kiel is admirably situated for trade as well as for defense, the whole bay on which it stands forming a safe roadstead, and the town being provided with spacious quays. The celebrated Kieler Sprotte (smoked sprat) is caught in the bay and prepared here. Sugar, soap and machinery are manufactured; and there are woolen factories, tanning and tobacco works. It is as a naval dockyard and arsenal, however, that Kiel is most widely

known. The great imperial docks are on the east side facing the city, contain basins capable of accommodating the largest warships afloat, and form the focal point of the great shipbuilding establishments, as well as of other important industries, dependent on a naval station of the first class. It is also the seat of the largest naval hospital in Germany. A famous regatta is held annually in June. The Kaiser-Wilhelm Ship Canal from the mouth of the Elbe joins Kiel Bay at Holtenau, somewhat north of Kiel proper. Kiel became in 1284 one of the cities of the Hanseatic League; in 1773 it became a part of the kingdom of Denmark; and in 1866 it passed, with the rest of Schleswig-Holstein, into the possession of Prussia. In 1814 the Peace of Kiel was concluded, under which Norway was ceded to Sweden. During the Four Years World War Kiel was the headquarters of the German Imperial fleet from which it issued to defeat in the naval battle of Jutland in May 1916 and to surrender in November 1918. See WAR, EUROPEAN. The population has shown rapid expansion; in 1840 it was 43,594; in 1910, 211,627.

KIEL CANAL, a canal connecting Holenau, on the Baltic Sea, with Brunsbüttel, on the Elbe River. It is also frequently known as the "North Sea and Baltic Canal" and as the "Kaiser-Wilhelm Canal." This has become one of the finest shipways in the world and as such it played an important part in the European War (1914–18), owing to the fact that the greater part of the German fleet was sheltered there. The canal, which is 60 miles long, is 36 feet deep, 140 feet wide at the bottom and 360 at the top with locks 1,140 feet long, 148 feet wide and 46 feet deep, being thus large enough to accommodate the greatest war vessel afloat. By the Kiel Canal the journey by sea from the Baltic to the North Sea is shortened 200 miles. Originally the Kiel Canal was only 28 feet deep and had a bottom width of 185 feet; but this narrow restriction was removed in order to make the canal more effective, more especially for war purposes. See SHIP CANALS.

KIELCE, kyĕl'tsĕ, a government and capital of the same name in Russian Poland. It is the smallest of the Russian-Polish governments, containing as it does only 3,897 square miles. Lying in the southwest it runs into the Carpathians and into the mineral regions which furnish it with coal, iron, zinc, sulphur and other metals which have been only partially developed. It has also valuable deposits of marble and building stone, considerable of which are still unexploited owing to the fact that they are too far from the market, or the transportation facilities are too poor. The Vistula forms the boundary line between Kielce and Galicia. Kielce, the capital city, situated in the mountains, over a hundred miles from Warsaw, was once noted as a copper-producing centre; but these mines are not being worked to any great extent at present, though attempts have been made during the present century to reopen some of them. The chief industry of the government is agriculture, which embraces the ordinary cereals of Europe, beet-root, mulberries and vegetables. Among the manufacturing activities are the making of paper, spirituous liquors, cotton goods, leather, glass, sugar, brick and machinery of various kinds; while the capital city specializes in brick, paint, sugar and articles made from hemp. Population of the government over 800,000, while that of the city is about 30,000, most of whom are Poles, with about from 15 to 20 per cent Jews.

KIELHORN, kēl'hôrn, **Lorenz Franz,** German Sanskrit scholar and writer: b. Osnabrück, 1840. Educated at Göttingen, Breslau, Berlin, London and Oxford, he became professor of Sanskrit at the Deccan College at Poona (1866–81) and Göttingen in 1882. He gave a great deal of attention to the Sanskrit texts and published several of them with notes and translations; and he founded (with Buhler) the *Bombay Sanskrit Series* in 1866. He wrote an exhaustive Sanskrit grammar which has gone through several editions and is extensively used in European colleges where Sanskrit is taught. Among his interesting works are 'Report on the Search of Sanskrit Manuscripts' and his contributions to *Indian Antiquary* and *Epigraphia Indica.* As editor of *Grundriss der indo-arischen Philologie,* he did much for the study of Sanskrit and things Indian.

KIELLAND, kyĕl'lănd, **Alexander Lange,** Norwegian novelist and dramatist: b. Stavanger, 1849; d. 1906. He came of a family occupying a high social position, and he received an excellent education which he completed at the University of Christiania where he was graduated in law. On leaving school he drifted into business instead of following his profession and became the successful manager of a large brick and tile concern. He continued his study of French literature and his reading was wide and varied. In imitation of Daudet, whom he greatly admired, he published 'Novelettes' (1879), which he followed with 'New Novelettes' (1880); 'Garman and Worse' (1880); 'Laboring People' (1881). These were followed by other novels in which he appears to be working under varying interests and influences, for the most part French, among them 'Skipper Worse' (1882); 'Poison' (1883); 'Fortune' (1884); 'Snow' (1886); 'Saint Hans' Festival' (1887); 'Jacob' (1891); 'Professor Loodhal' (1904). Among his dramatic works, which are all comedies, are 'Homeward Bound' (1878); 'Three Pairs' (1886); 'Betty's Guardian' (1887); 'Professors' (1888). Kielland has dealt with many social questions and problems in his various published works, which are, from this point of view, of considerable interest and importance in the history of the literature of Norway. He attacks conventional religion and the corruptions of the masses and the classes alike; and he has laid a ruthless hand upon many of the smug customs and foibles of the age. Naturally, owing to his manner of working and his didactic aims, his novels are better than his plays.

KIELMANSEGG, kēl-mạn'sĕg, (COUNT) **Erich von,** Austrian statesman: b. Hanover, 1847. On graduation from the university in 1870 he entered the service of the Austrian government and passed through the usual routine of various administrative posts in the provinces and the Ministry of the Interior (1886–89), becoming finally governor of Lower Austria and Minister of the Interior (1895) and later Prime Minister over a temporary

cabinet. In his official capacity he showed himself a man of action, intelligence and desire to better the conditions of affairs as he found them. He extended the confines and increased the size and importance of Vienna by taking into the city limits the suburban towns and villages; and he passed sanitary laws and other measures for the benefit of the capital and for other parts of the country.

K'IEN-LUNG, kē-ĕn-loong', emperor of China: b. 1710; d. Peking, 7 Feb. 1799. He succeeded his father, Yung-Ching, in 1735. He favored the Christian religion in private, but in 1753 interdicted its exercise by a formal order; and the missionaries were, in consequence, obliged to proceed with great caution, although several of them were in the emperor's service, and treated with great respect as men of science and learning. On the suppression of the Jesuits in 1774 China was less visited by scientific persons than formerly, which induced K'ien-Lung to send to Canton and invite artists and learned men of all the European nations, and particularly astronomers. Resolving to immortalize the remembrance of his victories by the graver, he engaged French artists to copy some Chinese paintings in which they were represented; but Louis XV had them engraved for him at his own expense. The larger Chinese collection on agriculture contains several poems of this monarch on rural occupations and incidents; and he established a library of 600,000 volumes, containing copies of all the most interesting works in China. In 1795 he abdicated in favor of his son.

KIENZL, kēn'z'l, **Wilhelm,** Austrian musician: b. Waizenkirchen, 1857. Studying music in all its branches under several famous teachers and professors in Prague, Gratz and Munich, he went through Europe on a concert tour (1881–82): and on his return he became head kapellmeister in Amsterdam of the German Opera Company, and he held similar positions in Hamburg, Munich and Gratz. He wrote good operas, a variety of concert and other music, and several books. Among his operas are 'Urvasi' (1886); 'Heilmar der Narr' (1892); 'Der Evangelimann' (1895) and 'Don Quixote' (1898). Among his other works are 'Die Musikalische Deklamation' (Leipzig 1880) and 'Miscellen' (Leipzig 1885). He has edited several important and interesting musical works and has contributed extensively to the musical periodicals of Germany.

KIEPERT, kē'pārt, **Heinrich,** German writer, geographer and cartographer: b. Berlin, 1818; d. 1899. His life was spent in the interest of geography and map-making in all their branches; and in this connection he did extensive traveling and exploration and thus advanced the science of accurate map-making very materially. He early began his exploration work with Asia Minor (1841–42). This was followed by the publication of his 'Atlas von Hellas,' which was begun in 1841 but not finished until 1844. This made his name well known in his particular field. He published several other maps of Asia or parts thereof, among the most notable being his 'Karte von Kleinasien' (1843–45). In the meantime he continued his explorations of western Asia with happy results for his cartography which also included maps and descriptions of archæological subjects. All this labor, intelligently planned and carried out, gained for him a national reputation and secured his appointment as director of the Geographical Institute of Weimar (1845–52), and professor in the University of Berlin (1859–99). Among his published works other than maps are 'Lehrbuch der alten Geographie' (1878); 'Travels in Asia Minor' (1842–90); 'Historisch-Geographische Erlauterung der Kriege zwischen dem ost-römischen Reiche und den persischen Königen der Sassaniden-Dynastie.'

KIERKEGAARD, kēr'kĕ-gărd', **Sören Abye,** Danish writer and philosopher: b. Copenhagen, 1813; d. 1855. He was educated at Copenhagen and in Germany; and, on his return to his native city in 1842, he settled down to the life of a student and literary man. Constant ill health made him morbid and inclined him to live by himself. In this way he estranged himself from the world and retarded the acknowledgment due him on account of his genius and originality. He wrote a great deal on theological subjects, upholding the genius and mission of Christianity but not always maintaining the attitude of the orthodox sects. His brilliancy of style, profoundness of thought and ability of argument and presentation of ideas gained for him a large and influential following and enabled him to widely influence thought not only in his own country but throughout Protestant Europe. He wrote under various pseudonyms, which were often convenient for the hiding of his identity when he did not care to reveal it for the time being at least. Among his published works of most interest are 'Either, or' (Enten-Eller 1843); 'Stages of Life' ('Stadier paa Livets Vei' 1845); 'On Christian Training' (1850). Consult Barthold, 'Die Bedeutung der ästhetischen Schriften Sören Kierkegaards' (Halle. 1879); Brandes, 'Sören Kierkegaards' (Copenhagen 1877).

KIERSY, Edict of, a capitulary of Charles the Bald, supposed, without any real reason, to have originated the feudal system. The measure was intended by the sovereign to be merely temporary. It was issued in 877 to protect the interests of the king during his expedition into Italy. While it recognized as hereditary the fiefs of the vassals taking part in the expedition as supporters of Charles, it also maintained the right of the sovereign to dispose of vacant fiefs, two important provisions which became, later on, striking features of the feudal system. This act may have helped to develop the system but the germs from which it sprang had long been in existence; and the growth of society, even before this date, had been toward a concentration of power which could only be attained through some combination similar to that of the feudal system. Consult any good history of the period and also 'Monumenta Germaniæ Historica, Leges' (Vol. I).

KIESEWETTER, kē'zĕ-vĕt'ĕr, **Raphael Georg,** Austrian writer on musical subjects: b. Holleschau, Moravia, 1783; d. Baden (near Vienna), 1850. After having been for a time employed in the offices of the Minister of War, he traveled extensively before finally settling down in Vienna to continue his historical researches to make a collection of old musical

instruments superior to any other in the city, and to write. Among his published works, in addition to numerous articles on ancient musical instruments, on which subjects he was an excellent authority, are 'Geschichte der europäisch-abenländischen oder Unserer heutigen Musik' (Leipzig 1834 and 1846); 'Guido von Arezzo; sein Leben und Wirken' (Leipzig 1840); 'Die Musik der Araber Originalquellen' (Leipzig 1842).

KIEV, kē'yĕf, a city in Little Russia, capital of the government of the same name. It has long been a fortified place but the fortifications are now of little or no use against modern artillery. The city, which lies amidst hills, is on the Dnieper which annually overflows the lower parts of the place. Kiev is a curious and interesting mingling of the past and the present, of ancient feudal and modern progressive Russia. The main part of the city, which consists of the low-lying sections and numerous suburbs which have been, from time to time, taken into the incorporated part of the town, are overlooked by the castle-crowned heights with their walls and ancient fortifications, which still preserve an air of the past. Kiev may be said to be divided into three parts or sections, Old Kiev, the upper town and the lower town. The fortified part is known as Ptschersk, and the business part as Podol. Kiev is one of the oldest cities in Russia and it figures in its history for many centuries so prominently that it is known in Russia as "the mother of cities." It was already a town in the 5th century; and during the following four centuries it continued to grow in importance and wealth until it finally became the capital and chief city of a principality of the same name. This principality figures in nearly every war in which Little Russia was interested, and for centuries the history of Russia may be said to have been nothing else but one almost continuous war carried on by the ambitious princes of the various independent or semi-independent sections of what is now modern Russia. It has the distinction of being one of the first principalities in Russia to adopt Christianity. This brought it into close connection with Rome and Western civilization and led it to adopt more of Western ways than the other political factions of Russia. Under the famous Vladimir I in the 10th century it became Christian in a characteristic Russian way. The prince had become convinced that connection with Rome would be very much to his advantage; and he decided to become a Christian. But he would not beg for baptism. He would get it the Russian way. He would conquer it by force of arms. So he set out with a large force against the Byzantine Empire, forced the Emperor Basil to give him his sister Anna in marriage and scared the Pope into baptizing him. On his return to Kiev he sent forth a proclamation that all who did not come to the river to be baptized should be looked upon as rebels. The people came together to the Dnieper, bringing their idols with them, as they had been ordered to do; and they were there baptized and their idols broken into pieces by order of Vladimir, who is said to have himself helped in the destruction. Not satisfied with this work in his capital, Vladimir sent word to all the villages, cities and districts of his kingdom that the inhabitants, without exception, should follow the example of Kiev and become Christians. Riots broke out in many parts of the country, but Vladimir carried through his plan of making Kiev Christian, to all outward appearance, though for many years afterward the peasants continued to worship their ancient gods in the depths of the forest and to be married, baptized and blessed by the ancient heathen rites. (See VLADIMIR). From the time of Vladimir Kiev continued to grow and prosper and to attract great attention as the religious centre of Russia and its richest and most famous city. Accumulating great wealth and containing famous palaces and private edifices, it attracted the attention of the conquering Mongols of the 13th century, who descended upon it as they did upon other wealthy centres of Russia. The struggle was long and bitter; but finally the wealth, power and glory of Kiev passed away temporarily before the ravages of the Mongol hordes.

In 1320, however, Kiev, coming under the rule of Lithuania, became a place of some considerable importance and retrieved a part of its past prestige and glory as a commercial and industrial city and the religious centre of western Russia. When Lithuania became a part of Poland in 1569 Kiev formed still a part of Lithuanian territory. It remained united with Poland until 1668 when it became Russian territory. Peter the Great, remembering its past glorious history, paid considerable attention to Kiev, restored its fortifications and made it one of the strongest fortresses in Russia in his day. Naturally, with so much interesting and momentous history, Kiev has many relics of her past greatness in the shape of buildings. Among these are numerous churches dating to the time when she was the "city of churches." Of these ecclesiastical remains the monastery of Caves (Petcherskaya Lavre) is one of the most noteworthy, forming as it does in itself a walled town dedicated to monastic life, with its schools and inns for the entertainment of pilgrims and its many rows of cells and numerous streets, all overlooking the Dnieper and surrounding the great central church of the monastery, one of the richest ecclesiastical edifices in Russia and the tomb of many persons of note, ecclesiastical and non-ecclesiastical, among them the remains of various saints. These too are found in the cave-like cells of the monks. All this makes Kiev one of the places most frequented in Russia by pilgrims who make journeys to it from all over the country wherever the Greek Church has adherents. Among the other noteworthy ecclesiastical edifices of Kiev are the monastery and church of Saint Vladimir, the cathedral of Saint Sophia, the church of the Three Saints and that of Saint Cyril, the cathedral of Saint Andrew, the new cathedral of Saint Vladimir, the Imperial Palace, the University of Saint Vladimir and the city hall. The university, which has been steadily growing in importance and usefulness, has a library of over 200,000 books and full arts and other departments usually found in such an institution. Kiev, which is a city of over 300,000, is a place of considerable industrial and commercial importance, its activities finding vent in the sugar beet trade, grain, live stock, timber, fruits, chemi-

cals, machinery, hardware, paper, tobacco, sugar and extensive shipping, comprising exports and imports. The city was the scene of massacres of Jews in 1905, in which the officials were accused of taking part in a clandestine manner. For an account of the part played by Kiev in the many wars and other struggles of Russia consult any good history of the country.

KIFTI (IBN AL-KIFTI, ib'n ăl kēf'tē), Arabian historian and vizier: b. Kift, Upper Egypt, 1172; d. 1248. Born of one of the best families in the country he was well educated at Kift and Cairo. His father holding a position under the Sultan in Jerusalem, which had lately been conquered by Saladin (1187), Al-Kifti went to that city, where he became interested in studying the life of the people and the result of the conquest of the country on the inhabitants. These historical studies he was destined to continue all his life. In 1202 he was made vizier by the Sultan, a position he held until the death of the latter in 1216. But he was soon again called to the highest office in the land under the Sultan (1219–31) and again for the latter part of his life (1236–48). His administration was notable in the history of Arabian viziers. He not only attended strictly to state affairs and succeeded in helping greatly the prosperity of the country as a whole, but he encouraged literature and art and learning of every kind; and he set the example himself by undertaking extensive research work and writing histories. His work in this latter field was very extensive and highly esteemed in his day; but only one of his histories has, survived to our day, the others having been destroyed during the Mongol invasion of 1260, only 12 years after his death. His one surviving work is known as 'Information of the Wise Men Regarding the History of the Scientists' (Kitāb Ikhbār al'Ulamā bikhbār al-Hukamā), and has come down to us only in part and that simply in extensive extracts made in another work in 1249. It treated of Mohammedan, Syriac and Greek philosophers and scientists. Consult Muller, A., 'Ueber das sogenannte ta'rīkh al-hukamā des Ibn el Qifti' (Proceedings of the Eighth International Congress of Orientalists, Vol. I, Leyden 1891).

KIKUYU, kē-koo'yoo, a part of the south of the British East African Protectorate, situated upon the equator. It is principally noted for the controversy in the Anglican Church there, between the extreme High Church and the Low Church, the accusation being on the part of the former, that the bishop of Uganda, Dr. Willis, and the bishop of Mombasa had admitted to communion persons not members of the Church of England. On this charge Dr. Weston, bishop of Zanzibar, demanded the impeachment of the offenders. The matter was finally brought to the archbishop of Canterbury, who appointed a council to decide the question at issue.

KILAUEA, kē-low-ā'ā, an active volcano in Hawaii. It has an oval crater, nine miles in circumference, with a lake of red and boiling lava at the bottom over 1,000 feet below the crater's mouth. The volcano lies 10 miles from the sea, and 30 miles from Hilo, on the eastern slope of Mauna Loa, 4,000 feet above the sea. Kilauea crater forms a great cavity on the side of the mountain, 3 miles long, 2 miles wide and 800 feet deep. At the southwestern end is a small lake of boiling lava called Halemanman, or House of Everlasting Fire. Great eruptions occurred here in 1789, 1823, 1832, 1840 and 1868.

KILBOURNE, James, American pioneer: b. New Britain, Conn., 19 Oct. 1770; d. Worthington, Ohio, 9 April 1850. He was successively employed as an apprentice, clerk, merchant and manufacturer, and having secured a competence, presented himself as a candidate for orders in the Protestant Episcopal Church, and was ordained about 1800. In 1801–02 he organized the Scioto Company, under whose auspices a colony of about 100 persons, under the lead of Kilbourne, was in 1803 established in what is now the township of Worthington, Ohio. Having organized here the Episcopal parish of Saint John's, as well as others in the neighborhood, and procured the establishment of a western diocese by the General Convention of the Protestant Episcopal Church, he retired from the ministry in 1804, and was soon after appointed a civil magistrate, an officer of frontier militia, and surveyor of a large portion of the public lands. In 1812 he was one of the commissioners to settle the boundary between the public lands and the great Virginia reservation, and also commissioned as a colonel in the frontier regiment; and in the succeeding year he entered Congress, of which he remained a member until 1817. He was the first to propose donations of lands to actual settlers in the northwest territory and afterward served for some years in the Ohio legislature.

KILDARE, kĭl-dār, parish, county and town of the same name in Ireland. The town, which is 25 miles southwest of Dublin, dates back to the 5th century when the present site was the seat of a monastery said to have been founded by Saint Bridget, daughter of an Irish king or chief, as the legend or story is variously stated. Bridget later became a nun, receiving the veil at the hands of no less a personage than Saint Patrick himself, according to the church legend which bears marks of authenticity. The famous monastery and the town itself are both in a somewhat decayed condition but they are still interesting on account of the many legends, stories and historical associations which cluster around them. Among the historical buildings of the town are the Round Tower, over 100 feet in height, on the top of the most elevated part of the site of the town; the convent of Saint Francis with its abbey and the abbey of the Carmelites. A very interesting relic of the past is the "Fire-house," a part of the chapel of Saint Bridget, in which there was maintained, according to the legend, perpetual fire for centuries, probably a remembrance of the pre-Christian fire worship of the Irish people. Pop. 3,000.

KILDEER. See KILLDEER.

KILGO, John Charles, American ecclesiast and educator: b. Laurens, S. C., 22 July 1861. He entered the ministry of the Methodist Episcopal Church South in 1882, continuing his college studies afterward so that he was graduated with the degree of M.A. from Wofford College 10 years later. He became agent for Wafford College (1889–94) and professor of

philosophy there during the same period, and for the following six years he was president of Trinity College, Durham, S. C. This position he resigned to accept the appointment of bishop (1910). He has been a member of various conferences and has held other important offices in church and educational circles.

KILHAM, kĭl'ăm, **Alexander,** founder of the Kilhamites or New Connection Methodists: b. Epworth, Lincolnshire, 10 July 1762; d. Nottingham, 20 Dec. 1798. He professed conversion at 18, became a preacher in 1783 and two years later was enrolled by Wesley as a regular itinerant. He was strongly in favor of complete separation from the Established Church, a step to which Wesley had always been opposed. On the death of the latter this subject came under discussion. He at once urged separation and sought moreover for the distribution of administrative power between the ministry and the lay members. For several offensive passages in his 'Progress of Liberty' (1795), the pamphlet in which these views were expounded, he was tried at a conference held in 1796 and expelled from the denomination, upon which he immediately organized the "New Connection Methodists or Kilhamites."

KILIAN, kĭl'yăn, or **KULN, Saint,** the apostle of Franconia. He was of noble Scottish extraction and had entered a monastery in Ireland, when hearing of the spiritual destitution of German Franconia he asked and received from the Pope a commission to preach the Gospel to the German idolators, and with Colman, his priest, and Totnan, his deacon, was instrumental in converting great numbers at Würzburg, and among them Duke Gosbert. On being rebuked by Kilian for marrying Geilana, his brother's widow, Duke Gosbert promised to put her away, and hearing this, Geilana caused the three missionaries to be secretly assassinated (690) without her husband's knowledge. Kilian is honored as the first bishop of Würzburg, and his festival is 8 July.

KILIMANJARO, kĭl-ē-măn-jä'rō (the Great Mountain), a double-peaked, snow-clad mountain of Africa, in German East Africa, about 100 miles inland from the port of Mombasa. The highest peak, estimated at 19,270 feet, is the highest known in the African continent.

KILKENNY, an island capital and county of the same name in Ireland. It is probable that the county received its name from the town since the word means the church of Saint Kenny (Canice). The town, which is itself a civic county, is situated on the Nore some 70 miles south by southwest of Dublin, with which it is connected by rail. It dates back to the 12th century, and like many other towns in Ireland is said to owe its origin to the establishment of a Christian church on the site of the present town; but it is very probable that there was a village established there previous to the founding of the church. In fact the Anglican cathedral of Saint Canice dates back to 1052. From the time of the first English invasion Kilkenny was the centre of strong British power, and consequently its relics are largely non-Catholic. The Catholic Disabilities Act and the efforts made to destroy all Catholic education in the county also helped to place the interesting buildings of the town in the hands of the Anglicans. Kilkenny has at least two famous schools, and at one of these, the College of Kilkenny, many notable men have been educated, among them Berkeley, Congreve and Swift. The oldest Roman Catholic college of the town is known as Saint Kyran's, but it dates back only to the time of the comparatively recent liberality which permitted the establishment of Catholic colleges and schools in Ireland. The town which has a population of over 10,000 is of considerable commercial and industrial importance. It is a centre of extensive manufactures of woolen, linen cloths and blankets, and is a distributing centre for provisions of various kinds. A great part of the home trade in this latter industry finds its outlet through Waterford, with which Kilkenny is connected by rail and with which it has water communication. The Kilkenny people have the reputation of being quarrelsome, but this is very largely undeserved, and is due principally to Swift's famous story of the Kilkenny cats which fought until there was nothing left of either of them but the tails, and also to the fact that Kilkenny had a long standing dispute over boundary lines with her neighbor Irishtown. This district of Ireland was also noted, in earlier days, for the animosities maintained by local chieftains for one another. But the people of Kilkenny are to-day, notwithstanding this historical reputation, of a very friendly disposition. Consult Donelan, J., 'The Confederation of Kilkenny' (Dublin 1906); Healy, 'History of Kilkenny' (Kilkenny 1893); Hogan, 'Kilkenny' (Kilkenny 1884).

KILLARNEY, capital of Souris District, Manitoba, Canada. Situated on the line of the Canadian Pacific Railway some 160 miles direct west of Winnipeg, it is the centre of an agricultural country with which it carries on commercial relations somewhat important for the size of its population. Its extensive handling of grain from the local farms has necessitated the erection of a number of very modern grain elevators. The town also does a good trade in flour and in such articles as are required by the surrounding farming community. It has lumber yards, a sash and door factory, a cement plant and depots for the sale of agricultural machinery. Killarney is growing and becoming of more interest and importance. Pop. 2,500.

KILLARNEY, kĭ-lär'nĭ, market town in Ireland, in the county of Kerry, on the Great Southern and Western Railway. In summer, Killarney is thronged with visitors to the lakes and the delightful scenery in the neighborhood. Fancy articles of wood, particularly of arbutus, which attains to great perfection in the environs, are made to a considerable extent, and are in great demand by tourists. Pop. 5,796.

KILLARNEY, Lakes of, three connected bodies of water, the lowermost of which is within 1½ miles of the town of Killarney, Ireland. These famous lakes are situated in a basin in the midst of the mountains of Kerry, some of which rise abruptly from the water's edge densely clothed with trees from base to summit. In the lower lake (Lough Leane) are a number of finely wooded islands, on the prin-

cipal of which are the remains of Ross Castle. Between the lower and the middle lakes is the fine ruin of Muckross Abbey. The upper lake is the most enchanting of the three, and is thickly studded with islets.

KILLDEER, the most common and best-known species of American plover (*Ægialitis vocifera*). It is found throughout temperate North America, especially in the western United States, breeding northward to Newfoundland and in winter migrating to South and Central America. It is 9 or 10 inches long and the sexes are similarly colored — brown above with a chestnut tinge on the rump; around the neck a white ring bounded in front by a complete, and behind by an incomplete, black ring; the lower parts are white and there is a white stripe through the eye; the wing-quills and tail are variegated black and white. The killdeer is distinctively a bird of the interior, spreading over the prairie lands and fields, and frequenting the seashore chiefly during the winter. During the summer it is usually found in pairs, breeding in corn and hay fields or along water-courses. The four clay-colored, spotted, pyriform eggs are deposited in a slight depression in the ground. Though always noisy birds, the cry or whistle from which their name is derived is heard in its perfection when the nest is approached, and the frightened hen endeavors by various devices to lead the intruder away. Like that of other plovers, the food is chiefly insects. In the late summer and early autumn the killdeer is sought by gunners, but much less so than related migratory species of the same genus.

KILLER, a kind of whale, or large porpoise, also called orca or grampus, of the family *Delphinidæ*, and constituting the genus *Orcinus*. It reaches a length of about 25 feet. The head is rounded and the lower jaw is a little shorter than the upper. The dorsal fin is extraordinarily high in the adult males, like a broadsword, nearly vertical and about six feet in length from base to tip; in the female it is prominent but much lower. The pectoral fins are large, broad and rounded, and the flukes, or tail-fin, also broad and thick. The color is peculiar, being black above and on the fins, and white below; the margins of the two colors sharply defined. The white of the belly extends forward to the end of the lower jaw, and upward on each side where it forms a large, oblong, white area. Above and somewhat behind the eye is a conspicuous oblong, white spot. In the young the white areas are tinged with yellow. The upper and lower jaws are armed with thick, powerful, somewhat curved teeth, numbering in all from 40 to 56. The killer is the largest and most powerful representative of the dolphin family. It hunts in packs and is rapacious and exceedingly voracious. Unlike all other cetaceans it feeds upon warm-blooded aquatic animals, and chiefly on young seals, porpoises and whales. It attacks the larger whales without hesitation, biting them on the lips and throat, sometimes in order to force them to surrender their young, which are torn to pieces and devoured. In one instance the stomach of a killer was found to contain the bodies of 13 porpoises and 14 seals. The best-known species (*Orcinus orca*) inhabits all seas. A second species is found in the South Pacific. Others have been described, but their validity is doubtful.

KILLIECRANKIE, kĭl-ĭ-krăng'kĭ, pass of Scotland, in the Grampians of northern Perthshire, on the Highland Railway, three miles southeast of Blair-Athole. A viaduct of 10 arches carries the railway over the pass. Here Claverhouse, Viscount Dundee, defeated the forces of William III under Mackay on 7 July 1689, but was killed in the moment of victory.

KILLIFISH, one of a group of small fishes of the family *Cyprinodontidæ*. They have broad, depressed, scaly heads, large cycloid scales, no lateral line, small very protractile mouths with several rows of pointed teeth, and a well-developed air-bladder which possesses somewhat of a pulmonary function. The common killifish, mud-fish or mummichog (*Fundulus heteroclitus*) seldom exceeds three inches in length, and is exceedingly abundant in shallow waters along the shores of bays and estuaries, in brackish pools and tidal rivers from Maine to Mexico. It is extremely hardy and is important economically as food for larger fishes. The sexes differ in color. The larger killifish (*F. majalis*) reaches a length of six inches, and is found in shallow salt and brackish bays from Florida to Cape Cod. The males have transverse and the females longitudinal black bars. The species of *Fundulus* are oviparous, but some genera of the family are viviparous and strongly dimorphic, sexually.

KILLING, kĭl'ĭng, Wilhelm, German writer and mathematician: b. Burbach, Westphalia, 1847. Graduated from Berlin University, he became a teacher, first privately, and afterward in the gymnasia, becoming finally professor of mathematics in the University of Münster. There he distinguished himself by his works on mathematical subjects which were noted for their depth of thought and accuracy of reasoning. He gave special attention to the field of non-Euclidian geometry in which department he won the Lobachevsky prize of the Kazan Academy (1910). Among his published works are 'Die nicht-euclidischen Raumformen' (1883); 'Erweiterung des Raumbegriffs' (1884); 'Die Lieschen Transformationsgruppen' (1886): 'Einführung in der Grundlagen der Geometrie' (1893–98); 'Lehrbuch der analytischen Geometrie in homogenischen Koördinaten' (1900–02); 'Handbuch des mathematischen Unterrecht' (1910–13, with Hovestadt).

KILLINGLY, kĭl'ĭng-lĭ, Conn., town, including several villages in Windham County, on the Quinebaug and Five Mile rivers, 25 miles northeast of Norwich, on the New York, New Haven and Hartford Railroad. It has a public library, a high school, churches and town-hall, and manufactures of cotton and woolen goods, harness, mill supplies, boots and shoes, etc. It was settled in 1693, and until 1708 was known as Aspinock. It was the greatest cotton manufacturing town in the State in 1836. Pop. 6,564. Consult Bayles, 'History of Windham County, Conn.' (New York 1889); and Larned, 'History of Windham County, Conn.' (2 vols., Worcester 1874).

KILLINGTON (kĭl'ĭng-tŏn) **PEAK,** an elevation of the Green Mountains, in the State of Vermont, about 10 miles southeast of Rutland. It is 4,241 feet high, and the view from

its summit is most beautiful; a large number of pretty villages and charming valleys may be seen on a clear day.

KILMAINHAM, kĭl-măn'hăm, a township of Dublin County and a suburb of Dublin City. It lies to the west of the city and is known generally throughout the British Empire on account of its military hospital which bears the name of the place itself, and its jail in which numerous political offenders have been confined, among them Parnell, who was placed there in 1882. The hospital, which is as well known in Ireland as Chelsea Hospital is throughout the British Empire, is a very old institution, as hospitals go, having been founded by Charles II for the reception of wounded and pensioned soldiers. Kilmainham has figured in the politics of the British Empire on several occasions, the most notable being probably the secret agreement entered into between Parnell and Gladstone on the question of the commission of agrarian crimes in Ireland, an agreement which has been popularly known as "The Treaty of Kilmainham."

KILMARNOCK, a town situated on the Kilmarnock, in Scotland. It is in Ayrshire, only 12 miles north of the city of Ayr, and is the largest town in the shire. It is noted for its connection with the national poet, Robert Burns, whose first book was published there. Burns has celebrated many scenes in Ayrshire, and the city of Kilmarnock has taken great pride in its relationship to the Scottish bard and possesses a very interesting museum of things relating to him, his work and his various connections. The neighborhood of the city is given greatly to the production of cheese and one of the yearly events of its life is a great cheese show to which people come from far and near with exhibits. These amount to thousands of dollars yearly. The city, which has grown rapidly within the past 30 years, has a very active industrial life. It possesses large engineering establishments and factories, including those for the manufacture of calico, machinery, liquors, leathers, woolen goods and carpets. Its blast furnaces also form one of the most prominent features of its industrial life. These are enabled to work at very advantageous conditions owing to the fact that the iron and the coal which keep them running are found in abundance and of good quality in the neighborhood. In addition to its extensive production of cheese Kilmarnock also gives a great deal of attention to all other kinds of dairy products. Pop. about 35,000.

KILN POTTERY. In modern practice, kilns as used in the clay industries may be described in three general types, up-draft, down-draft and muffle kilns. The last named stands alone, as its distinctive feature lies not in the method of firing or the direction of the draft but in the fact that the kiln consists of a single laboratory closed to the direct entrance of flame and heated by radiation through the walls. This type of kiln is used in cases where it is necessary that the contained wares should be protected from dust and smoke, but where it is not convenient to enclose them in saggers. Large ware such as porcelain bath-tubs and sinks, heavy pieces of terra-cotta, etc., cannot be set in saggers as pottery is on account of weight and size. They are best burned in a muffled kiln, being set directly upon the brick floor. Muffled kilns are also used for burning painted wares. These are smaller than the kilns for heavy goods and are burned to a much lower temperature. Such kilns can be set, burned, cooled and drawn in 24 hours, while the large muffles cannot be turned in less than 10 days.

General kilns for pottery burning are of the open type. The wares are enclosed in saggers which are set over one another in tiers (bungs). Saggers are cases made of refractory clay and suited as to size to the wares they are to contain. The flames and kiln gases pass freely round the saggers and the whole chamber is uniformly heated.

The usual form of kiln is cylindrical with a slightly domed crown. Outside this is the "hovel" or conical top familiar to the inhabitants of pottery towns. The hovel serves the purpose of a chimney, and collects the smoke from a number of apertures in the kiln crown. The fire mouths range in number from 6 to 10 according to the size of the kiln. In the up-draft kiln the gases simply pass up between the bungs of saggers and find a free vent at the top. In the down-draft type the top of the crown is closed and the gases after passing up the walls and under the crown are led down a centre stack and up again through flues arranged for the purpose. The structure of the down-draft kiln is more complicated than the up-draft, but a considerable economy of fuel is effected. The kiln also cools more rapidly.

Kilns for burning bricks follow the same general lines but vary in form. For this purpose the square kiln is among the most popular, being usually operated on the down-draft principle.

Many plans have been devised for the perfect utilization of heat, but none that is entirely satisfactory. One of the best is that of the continuous kiln. This has been applied in Germany to the burning of porcelain, and its use in America increases. The continuous kiln is a long low tunnel built in the form of a parallelogram with rounded ends. This is divided into as many chambers as may be necessary, each chamber having an entrance at each side and two fire mouths. Paper partitions are used in order to secure the correct movement of the draft, and as each successive chamber is filled with ware and the proper dampers opened the heat from the burning chambers is drawn through the unburned brick, bringing them up to a high temperature without any additional fuel. Meanwhile the chambers in which the firing has been completed are beginning to cool and so the work goes on continuously. The economy of the method is very great, but a considerable output is necessary in order to avoid stoppage. Kilns are, for the most part, burned with coal, both hard and soft coals being used. Those in the gas belt are successfully burned with natural gas and in some places oil is used. The temperatures at which different wares are burned are about as follows:

Roofing tile and paving brick	1030°–1070°C
Common brick and drain tile	1090°–1170°C
Faience art pottery — glaze	1150°C
Faience art pottery — body	1230°C
Sewer-pipe and stoneware	1250°–1290°C
Earthenware dishes	1290°–1310°C
Hotel china	1330°C
Bone china	1330°C
Hard porcelain	1390°–1410°C

KILO. See METRIC SYSTEM.

KILOGRAMME, or **KILOGRAM,** a French measure of weight = 1,000 grammes. See METRIC SYSTEM.

KILOLITER, or **KILOLITRE,** a French measure of capacity for fluids, 1,000 litres. See METRIC SYSTEM.

KILOWATT. See ELECTRICAL TERMS; UNITS; WATT.

KILPATRICK, Hugh Judson, American soldier: b. Deckertown, N. J., 14 Jan. 1836; d. Valparaiso, Chile, 4 Dec. 1881. He was graduated at West Point in 1861, and in the autumn of that year became a lieutenant-colonel of cavalry. He was appointed a brigadier-general of volunteers in May 1863, and in the following March was active in a raid to Richmond for the release of Federal prisoners. He commanded the cavalry of Sherman's army in its march from Atlanta to Savannah in 1864, and in June 1865 was promoted major-general of volunteers. After the War he was prominent as a lecturer and a Republican political speaker. He was Minister to Chile from 1865 to 1870, and was reappointed in 1881. In 1887 his remains were removed from Chile and interred at West Point. Consult Moore, 'Kilpatrick and our Cavalry' (1865).

KILWA (kĕl'wă) **KIVINJE,** kē-vĕn'yă, or **QUILOA,** kē-lō'ă, seaport town in German East Africa. It is situated on the east coast about 180 miles south of Zanzibar, and was, before the outbreak of the European War, the chief port of entry of the German government in German East Africa. At that period its extensive roadstead was frequented by trading vessels from all parts of the world, for its trade and commerce were very extensive. Before the German occupation of the country the city was a place of considerable importance in the native economy, but it was extremely unhealthy for Europeans and not any too sanitary for the natives. The Germans did a great deal to improve the health conditions of the town which they made fairly habitable for white people and blacks alike. All the neighborhood of Kilwa was noted, during the Arab occupation of the coast, as one of the hotbeds of the African slave trade. Kilwa (Kilwa Kisiwani), the centre of these Arab operations, which is some 17 miles further down the coast, has fallen into decay and is almost deserted, and there is little commercial or industrial activity on the island on which it is situated or in the immediate neighborhood. The population of the modern city, which is known as Kilwa Kivinje, is over 100,000.

KILWINNING, an industrial town in Ayrshire, Scotland, quite close to Irvine. It possesses woolen factories, coal mines, iron works, engineering and fire-clay establishments. It is situated in historic ground and the whole neighborhood is rich in Highland and Lowland traditions. Near to the town is Eglinton which possesses extensive iron works and the famous castle of the same name, the scene of the Eglinton Tournament (1839). Kilwinning claims the honor of being the mother of the freemasonry of Scotland. Pop. about 5,000.

KIM, by Rudyard Kipling, ranked by some critics as "the author's highest attainment in fiction," narrates the colorful adventures of young Kimball O'Hara, son of an Irish soldier in India, reared from babyhood as a waif among low-caste Hindus and known among his variegated native acquaintances as "the Little Friend of all the World." Kim attaches himself, as disciple and protector, to a splendid, wise yet simple old Tibetan lama, who is wandering through India in search of a mystic river that is to wash him clean of all earthly sins, sorrows and penalties. The boy's European parentage is discovered, and Kim, with the lama's aid, is sent to school where he is educated with a view to his employment in the British secret service, for which he is peculiarly fitted by his natural gifts and his intimate knowledge of native life. Then, still in his teens, and unofficially attached to the secret service, he resumes his wanderings with the lama through India and far into the Himalayas, where he is instrumental in defeating the machinations of foreign spies among the native princes. On its first appearance in book form, 19 Oct. 1901, 'Kim' was enthusiastically hailed as a marvelous revelation of Hindustan. Thus a reviewer in *The Academy* (London) writes, "'Kim' is hardly a novel. It is a kinemetograph of a people, telling what they feel — what they have felt through time, and the effect of that immemorial feeling on those of to-day." And Edgar Allen Forbes who followed the route of the tale through India declares "'Kim' is to me the best guide book and the most faithful interpreter that the traveler may find in India. No other book that I know of so clearly unfolds that wonderful land and its mysterious customs."

ARTHUR GUITERMAN.

KIMBALL, Arthur Lalanne, American writer: b. Succasunna Plains, N. J., 16 Oct. 1856. Educated at Princeton and Johns Hopkins universities, he became a member of the teaching staff of the latter institution for a while, being finally called to the chair in physics in Amherst College in 1891. Among his published works, which are almost altogether on physics, are 'The Physical Property of Gases' (1890), and 'College Physics' (1911).

KIMBALL, Heber Chase, American Mormon leader: b. Sheldon, Franklin County, Vt., 14 June 1801; d. Salt Lake City, Utah, 22 June 1868. In 1832 he was baptized into the Church of Latter-Day Saints, in the same year was ordained an elder of the Church by Joseph Smith and in 1835 became one of the 12 Mormon apostles. In 1838 with Brigham Young he led the Mormons from Missouri into Illinois, where they finally settled at Nauvoo, and in 1847 was a pioneer in the exodus to the valley of Great Salt Lake. He was successively chief priest of the order of Melchizidek (1846), a councillor to Young (1847) and chief justice and lieutenant-governor of Deseret.

KIMBALL, James Putnam, American geologist: b. Salem, Mass., 26 April 1836; d. 23 Oct. 1913. Educated at Harvard, Berlin, Göttingen and Freiberg (Saxony, school of mines), he became professor of chemistry and economic geology in the New York State Agricultural College (1861-62), and assistant adjutant-general of United States volunteers,

ranking as captain. He took a very active part in the Civil War and was with the Army of the Potomas, serving on the staffs of McClellan, Burnside, Hooker and Meade. At the conclusion of the war he became a mining engineer, serving in the meantime as honorary professor of geology at Lehigh University (1874–85), becoming, upon the latter date, director of the United States Mint (1885–88). He contributed extensively on his special subjects to American and other magazines.

KIMBALL, Martha Gertrude, American philanthropist: b. Portland, Me., 1840; d. 1894. She led a very active life which was marked by charitable impulses. During the Civil War she acted as a nurse with Sherman's army on its march into Georgia. She took a very great interest in the soldiers, and finally became inspector of hospitals. Her first connection with the army in the field was when she accompanied her husband to the front during the early part of the war. The fact that her husband was appraiser of captured cotton, an important position in the army, gave her an opportunity of seeing army life that she could not easily have otherwise obtained without becoming a part of the military organization as she later on actually did. She is credited with being the originator of the decoration idea, which she is said to have suggested to General Sherman, who at once welcomed it and put it into practice.

KIMBALL, Richard Burleigh, American author: b. Plainfield, N. H., 11 Oct. 1816; d. New York, 28 Dec. 1892. He was graduated at Dartmouth College in 1834 and later admitted to the bar; practised his profession at first in Waterford, N. Y., and afterward in New York. He founded the town of Kimball, Tex., and constructed the first railroad in that State, extending from Galveston to and beyond Houston. His publications include 'Letters from England' (1842); 'Cuba and the Cubans' (1850); 'Saint Leger' (1850); 'Romance of Student Life Abroad' (1853); 'Under-Currents of Wall Street' (1862); 'Henry Powers, Banker' (1868); 'To-day in New York' (1870); 'Stories of Exceptional Life' (1887).

KIMBALL, Sumner Increase, organizer and superintendent of the United States Life Saving Service: b. Lebanon, York County, Me., 2 Sept. 1834. He was graduated from Bowdoin in 1855; studied law and was admitted to the bar in 1858. In 1859 he served in the State legislature and was a member of the committee on judiciary. In 1862 he became a clerk in the second auditor's office in the Treasury Department at Washington, and in 1871 was made chief of the Revenue Marine Service. In that position he had occasion to investigate the condition of the government stations on the New Jersey and Long Island coast where surf boats and other apparatus were stored under the charge of a keeper for use in case of shipwreck; he found the property badly cared for and the service inefficient. Obtaining an appropriation from Congress he entirely reorganized the service, and so successfully that it was soon extended to Cape Cod and other points on the Atlantic Coast. In 1878 the Life Saving Service was organized as a separate bureau and was extended to the Pacific Coast and the Great Lakes. He was made the head of the bureau and introduced many improved methods, including the patrol system and telephonic connection between adjacent stations; he also obtained the passage of the law, to the effect that inspectors, keepers and crews in the service should be appointed on a strictly non-partisan basis "with reference solely to their fitness." He has also been acting register, acting comptroller and acting solicitor of the Treasury, and in 1889 he was the United States delegate to the International Marine Conference. He has written 'Organization and Methods of the United States Life Saving Service' (1889, the most complete monograph on the subject, and 'Joshua James — Life Saver' (1909).

KIMBALL, William Wirt, American naval officer: b. Paris, Me., 9 Jan. 1848. Graduated from the United States Naval Academy (1869), he entered at once upon military life and was promoted as rapidly as the service permitted, becoming captain (1905) and rear-admiral (1908). He has seen a great deal of service in almost every water where the United States fleet is stationed. Among his other experiences he was one of the first of American naval officers to see service on an American torpedo boat. Aside from this he gave much attention to the development and perfection of machine and magazine guns and submarines. For this reason he was given command of the American Atlantic torpedo boat flotilla during the Hispano-American War. After the close of the war he was a member of the boards of construction, examination and retirement, and he was in command of the Nicaraguan expeditionary squadron (1909–10), notwithstanding the fact that, by law, he was automatically retired in 1909.

KIMBERLEY, kĭm'bẽr-lẽ, **John Wodehouse,** EARL OF, English statesman: b. London, 1826; d. 1902. Educated at Oxford, he succeeded his father as third Baron Wodehouse while still in his teens, and he soon entered public life as Under Secretary of State for Foreign Affairs (1852–56 and also 1858–61). The intervening time he spent as encumbent of the Russian Embassy. He was special envoy to Copenhagen to represent the government in the Schleswig-Holstein affair (1863), and on his return to England the following year he was appointed Under Secretary at the Indian Office, a position he soon relinquished to become Lord Lieutenant of Ireland (1864–66). He was recalled to England by the Gladstone government as Lord of the Privy Seal (1868–70) and Secretary for the Colonies (1870–74). The latter position he again held (1880–82) until he was appointed Secretary of State for India (1882–86), a position he was again called to occupy (1892–94), but relinquished to become Foreign Secretary in the Rosebery Cabinet (1894–95). Two years later he became leader of the Liberals in the House of Lords, and in 1899 he was elected chancellor of London University. In 1866, at a comparatively young age, he was raised to the dignity of Earl of Kimberley, for services rendered the empire. Kimberley was a man of brilliant executive gifts and his work in Ireland and as Colonial Secretary and Secretary of State for India redounded to his credit and that of the British government.

KIMBERLEY, Lewis Ashfield, American rear-admiral: b. Troy, N. Y., 2 April 1830; d. 1902. He was appoined to the navy 1846, graduated from Naval Academy in 1852. In the Civil War as executive officer of the *Hartford,* Farragut's flagship, he took part in the contests at Port Hudson, Grand Gulf, Warrington and Mobile Bay, and in 1871 accompanied the United States expedition to Korea. In 1880–83 he commanded the navy yard at New York, in 1884–85 was a member of the examining and retiring board, in 1885–86 was in command of the Boston navy yard, in 1887 was promoted to rear-admiral and in 1892 was retired.

KIMBERLEY, South Africa, town of Cape Colony, the capital of Griqualand West and of the South African diamond fields, is situated 4,012 feet above sea-level at a distance of 647 miles by rail from Cape Town, and close to the westen boundary of the Orange Free State province. Kimberley owes its existence and prosperity to the mining of diamonds, an industry that began in 1870. It stands on an open plain, has wide straight streets, good public and other buildings and receives a supply of water from the Vaal, 17 miles distant. The most important diamond mines are those called Kimberlev, De Beers, Bultfontein, Du Toits Pan and Wesselton. During the South African War Kimberley was invested by the Boers for 123 days, from 15 Oct. 1899 till its relief by General French on 15 Feb. 1900. A fine breed of horses is raised in the neighborhood. Pop. 49,832, of which 17,059 were whites.

KIMBERLEY, Australia, a northern district of western Australia, brought into notice by the discovery of gold fields in 1886. It contains immense tracts of splendid pasture and much land suitable for cultivation. The chief port for the district is Derby, on the Fitzroy River, near King Sound. The district, which has an area of 144,000 square miles, is divided into East and West Kimberley. It is separated from the more populous part of the colony by a stretch of sandy desert.

KIMCHI, kĭm'kē, **David, or Rdak** (RABBI DAVID KIMCHI), Hebrew philologist: b. Narbonne, 1160; d. 1240. He was the most learned member of a learned family, and maintains today his reputation as grammarian, lexicographer and exegete. Besides his commentary on Genesis, Chronicles, the Prophets and the Psalms he wrote a grammar, 'Michlol' (Venice 1545); a Hebrew dictionary, 'Sefer Haschoraschin,' which was practically a list of roots (Naples 1490). He also wrote a tract under the title "El Sofer," which treated of the Massora and the Hebrew Accents and was published for the first time in 1864.

KINAH, kī'nā, **The,** a Hebrew metrical form, usually employed in dirges and songs of mourning, such as the Lamentations of Jeremiah. Each verse member is divided by a cæsura into two unequal parts, of which the first is the longer. The shorter clause simply enforces the thought expressed in the longer; as in the following example:

"He was unto me as a bear lying in wait || a lion in secret places."

"And thou hast removed my soul far off from peace || I forgot prosperity."

The kinah, with its long drawn out clause and its short abrupt closing phrase, is still employed in Oriental countries. It has the effect of a cry, followed by a sob. It seems to halt like the metre which in classic times was called the halting iambus and it might fittingly be styled the Semitic choliambus.

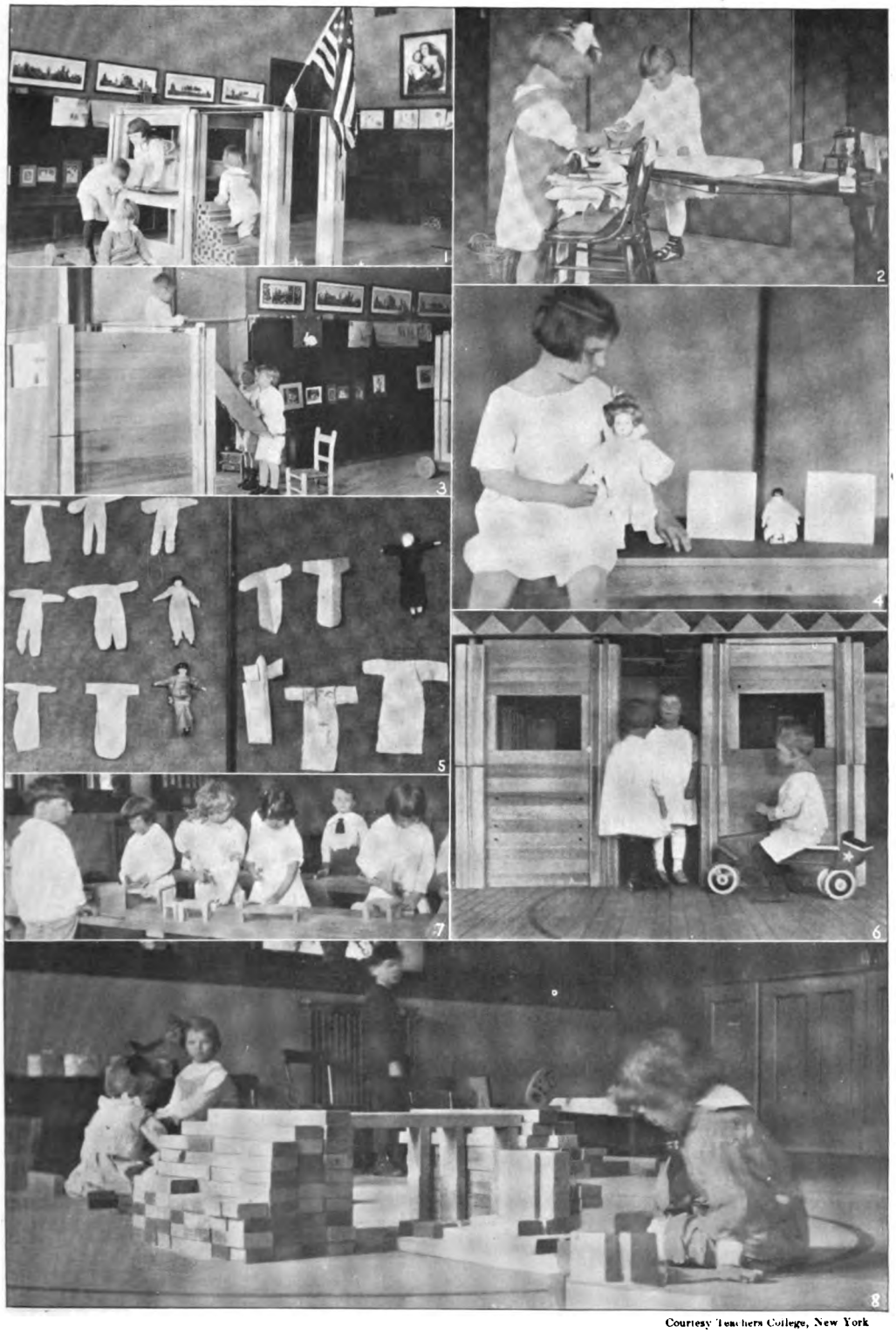
KINCARDINE, kĭn-kär'dĭn, a maritime town in Bruce County, province of Ontario, Canada. It is situated on Lake Huron, between Goderich and Collingwood, and is one of the most thriving towns of the western Ontario peninsula. It is a port of entry and has extensive fisheries, salt works and furniture factories, while its agricultural interests and general trade are extensive for the size of the place. Pop. 2,500.

KINCARDINSHIRE, or THE MEARNS, a maritime county in the northern part of Scotland lying south of Aberdeenshire and the Dee River and facing the North Sea. About half the century is under cultivations and the chief interest is agriculture though some of the towns such as Banchory, Storehaven, Inverbervie and Laurencekirk have a certain amount of manufacturing activity. The shire is crossed by the Grampian Mountains which give it a rugged aspect. Area, 381 square miles. Pop. over 50,000.

KIND, kĭnt, **Johann Friedrich,** German poet, dramatist and novelist: b. Leipzig, 1768; d. 1843. Graduating in law he practised his profession for 21 years. He was a very industrious writer in many fields of literature, in all of which he was popular in his day with a large class of leaders. Though he published five volumes of sentimental and popular poetry his poetry is the weakest of his literary efforts. His popular tales have somewhat more merit than his poems; but it is in the line of operatic plays that he is best and most generally known. Among his opera productions the best are 'Das Nachtlager von Granada' (to Kreutzer's music); 'Der Holzdieb' (Marschner's music), and 'Der Freischutz' (Weber's music). He wrote too much to have produced really valuable literary works; but scattered throughout his various compositions are many passages which read well and are capable of being separated from their contexts and used as selected readings.

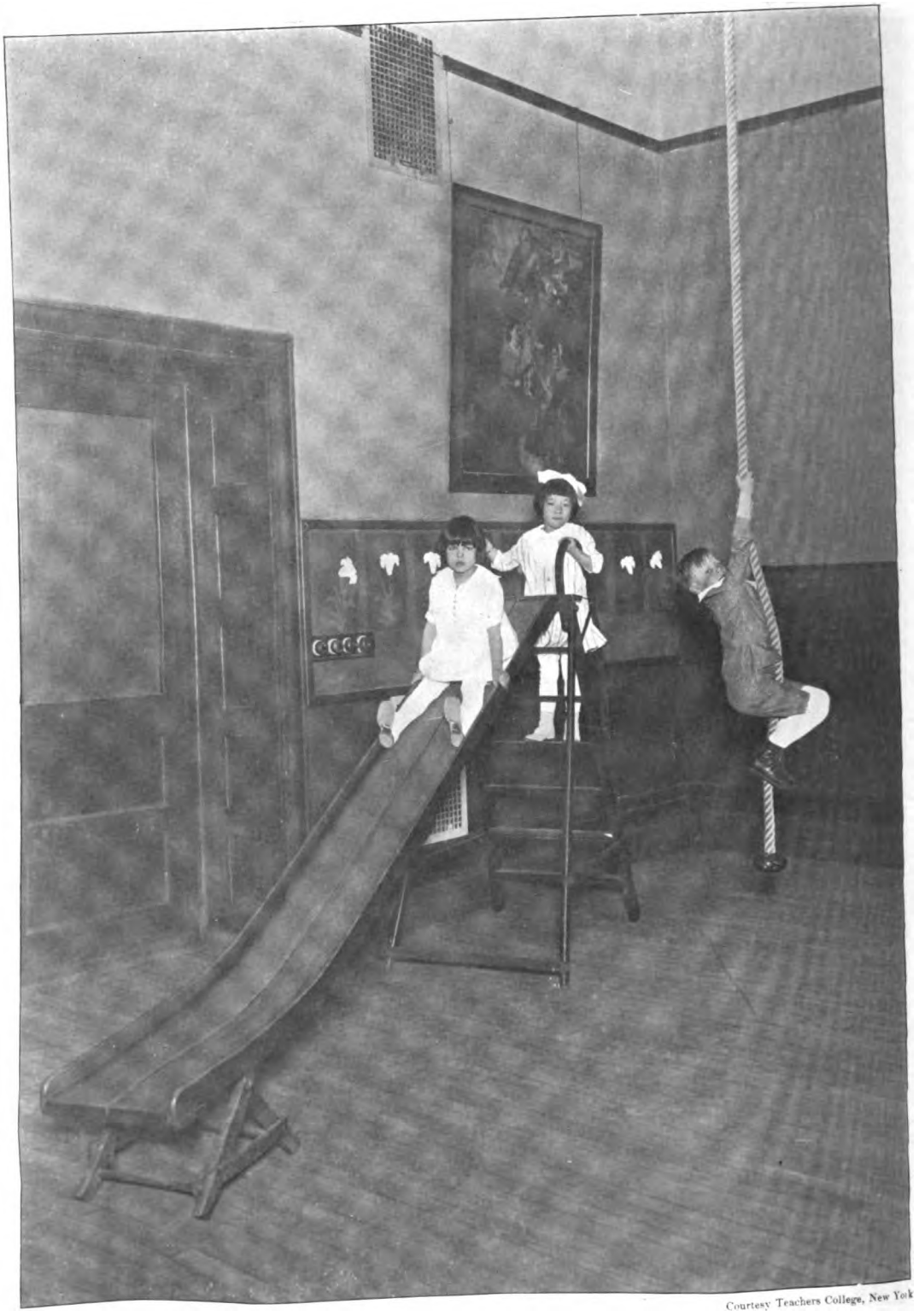
KINDERGARTEN, The, a system of education for young children from four to six years of age, which came into existence in Germany about the year 1837. Frederic Froebel, the originator of the movement, had grown more interested in the neglect, and the undeveloped possibilities of this period of childhood, from his extraordinary success as a teacher of older boys in the elementary and high school period, and at his school for boys at Keilhau which had won the interest of progressive thinkers in Germany. But, because of its radical innovations in education and the atmosphere of freedom which prevailed in the school, his work was under the constant inspection of Prussian officials, which finally resulted in the prohibition of kindergartens just before Froebel's death in 1851.

KINDERGARTEN



Courtesy Teachers College, New York

1 Learning to work and play together in carrying out group plan
2 Learning to wash and iron doll clothes
3 Learning to cooperate. Building two-story houses large enough to play inside
4 Comparison of old and new method of sewing — old, on cards; new, on doll clothes
5 First, second and third attempt at patterns for doll dresses
6 Playing inside of house built of large blocks
7 Building Furniture with small blocks
8 Cooperative play with large floor blocks. Plan initiated and executed by group of three



Courtesy Teachers College, New York

Physical Apparatus to stimulate play with large muscles of body

Froebel was a remarkably close student of child life, searching eagerly for the causes of difficulty in their early learning and instruction. As he lived, worked and played with boys of school age, he was convinced that much of the difficulty in later education was due to starting children wrong in the first place. As he traced these difficulties back into the earlier years of instruction, his interest in the pre-school period increased. Thus began his study of the pre-school period, which finally resulted in the establishment of kindergartens for the education of the child at this period.

He thought first of remedying the neglect of children at this pre-school period through educating mothers. It was not until this scheme failed that he decided to try an experiment with a group of young children under his care in an orphanage in Switzerland where he had been called because of his success in teaching in his native land. He accepted this opportunity, because Switzerland offered a freer field for experiments in education than Germany. After having convinced himself through this short experiment that many powers go to waste by postponing the education of the child to the sixth year, he returned to Germany to make an investigation as to what was being done for children of this age in any institutions where children of this age were to be found. When he returned to Berlin he found that the crèche, or day nursery, had been founded — one as early as 1801. He found that these were opened to give relief to mothers engaged in bread-winning for their families. He also discovered that the day nurseries and orphan homes were the only institutions interested in the pre-school age. When he visited them for suggestion he was impressed with the fact that no effort was being made to develop the intellectual interests and powers of children at this period of development. The care given was almost exclusively along physical lines, and poor care at that.

Had this been a day of international interest and intercourse Froebel would have found a greater interest in young children in Great Britain and France, where some interesting efforts had been made to rescue young children from neglect and crime. This disintegrating influence on home life was caused by the introduction of steam into industries, transforming the small shop into the factory. In England especially the rural populations had moved into the cities in large numbers in order to secure work in the factories and mines. The lack of proper housing conditions, the crowding of families into limited areas and quarters, due to limited space, higher rentals and the higher cost of food and fuel, soon drove the mothers and older children out of the homes into the mines and factories, and the younger children in the families were deserted and neglected. Disease, filth and crime resulted, and society had to meet this new social problem by some effort to care for, protect and develop the young children who were too young for the school or the factory. Among those philanthropists and religious leaders who made initial efforts to rescue these pitiful specimens of humanity in Great Britain were Robert Owen, James Buchanan, David Stow, Samuel Wilderspin and Joseph Wilson. Pastor Oberlin had tried to do the same work for young children in Alsace as far back as 1767, and Madame Pastoret, Madame Millet and Monsieur Cochin were absorbed in a like effort to solve this social problem for France. Some of these preceded Froebel, while others were contemporaries and successors, but as far as we know Froebel knew nothing of them or their work on the problem which he had in hand.

It would seem from a comparison of the work done by Great Britain and France with that accomplished by Froebel, that, while they were working for the children of the poor from a philanthropic and preventive point of view, Froebel had in mind the development and education of children of *all* classes. There was no industrial problem to speak of in the isolated locality in which Froebel lived in Germany. He was surrounded by simple plain folk, largely undisturbed by the changed industrial and social conditions which were stirring the municipal centres of Great Britain.

There were two motives which stirred Froebel in his experiments with these young children — first, the practical one which grew out of his experiences in teaching older boys. Here he saw the effects of a poor foundation laid in early education, as well as the neglect of powers which developed before the school age. In the second place, his interest in the education of women and young children was greatly stimulated by his contact with the Romantic and Idealistic philosophy which was influencing thought and action so profoundly at this period. Romanticism particularly, with its emphasis on feeling, intuition and the study of nature, brought a new sentiment toward both women and children — a sentiment which easily slipped into sentimentality. In his early educational experiments Froebel was distinctly under the influence of Romanticism, but later he came into touch with the Idealistic movement — the kindergarten being the most noted attempt to apply the ideals and principles of this philosophy in education.

While we know that Froebel was unfamiliar with what was being done in Great Britain and France with children of the preschool age, we have every evidence that he was somewhat familiar with Rousseau and his emphasis upon nature as the surest guide in reconstructing education and social life. We also know that Froebel was familiar with Comenius, and while he studied with Pestalozzi, and was profoundly influenced by him, he was never in complete sympathy with many of his most fundamental ideas. Pestalozzi emphasized the importance of sense impression and industrial training, but to Froebel, self-expression in play and creative work was the keynote of education. In this sense he was in closer sympathy with Rousseau's "return to nature" than with Pestalozzi's "A B C of sense perception," and training for the immediate, practical demands of industry.

There are times when Froebel comes very close to the idea that education is a mere matter of removing obstacles, so that the self may have unrestricted freedom in expression; but in practice he puts much time and attention on the educational value of the outer world and environment, especially as it affects young children. In this he is not always consistent, as

there would be no need of planning the externals of environment so carefully for young children with a selected educative stimuli if education consists solely in removing all obstacles that nature may have free play and an unrestricted expression. In fact the kindergarten may be defined as one of the first conscious efforts to provide young children with a carefully selected, educative environment,—an environment which offers not only the best sensory impressions, but what to Froebel was a still more important point, the very best materials as stimuli to the self-activity of the child. To Froebel, children were by nature good, and he looked upon humanity, nature and God as one. He was an optimist, as well as an idealist, and was so convinced of the possibilities in education that he said, "I see in every child the possibility of a perfect man."

While Froebel lived in a day when psychology as a science was just dawning, and scientific child-study an unknown factor, he undoubtedly saw, as no predecessor or contemporary, that the natural powers of the child must be used. He sincerely believed that the native instincts of children could all be utilized so as to gain the child's co-operation in his own education. As he believed that child nature and human nature were inherently good, he looked upon every expression of child life as worthy of respect and reverence. His deeply-rooted faith in the oneness of God, nature and man made him take this new attitude toward the apparently aimless activities of play and the so-called bad child. As Rousseau laid the blame for most of the evils in society upon civilization, so Froebel traced most of the evil tendencies in child life to wrong curricula in the schools. For this reason he tried to create a new curriculum—a curriculum made to fit the nature and the needs of the child. He firmly believed that if we could create such a curriculum, the old war between the child and the curriculum, the pupil and the teacher would cease and peace be declared. In his daily contact with children we see practical evidence of his faith in the native instincts and interests of children as worthy of study and utilization. He believed that happiness indirectly resulted when the needs of nature were met with an intelligence and sympathy which provided the right kind of materials for children to act upon.

The keynote of his interpretation of child life was *self-activity*. He at once set to work to make a self-active school where, children could actually learn through activity—through play. As a result, we see a curriculum, not of the three R's simplified for children of the pre-school stage as in England and France, but one made up of songs, games, dances, pictures, nature, art and manual training to meet the native tendencies of young children. These were given an honorable place in the curriculum, and respected as highly as the reading and writing approved by all education. Thus the school was transformed; the silent child was allowed to sing and talk; the suppressed child to work and play. The schools under his care were a combination of workshops, studios, playgrounds, laboratories and gardens, where children were singing, playing, talking, looking at pictures, listening to stories, gardening, painting, drawing, modelling, sewing and weaving. While this is commonplace to-day, the transformation was very largely due to Froebel. It is due to his influence, more than to any other educator, that the still child began to move, to act, to think, to work, to play; the silent child to sing, to talk, to ask questions, and thus we see the emphasis of education laid upon activity, growth, development, freedom, happiness and interest.

Froebel's extraordinary sympathetic insight into children stood him in good stead at a period when little was known of the science of child study as we know it to-day. He made many mistakes in applying his theories, but a new epoch was undoubtedly the result of his effort.

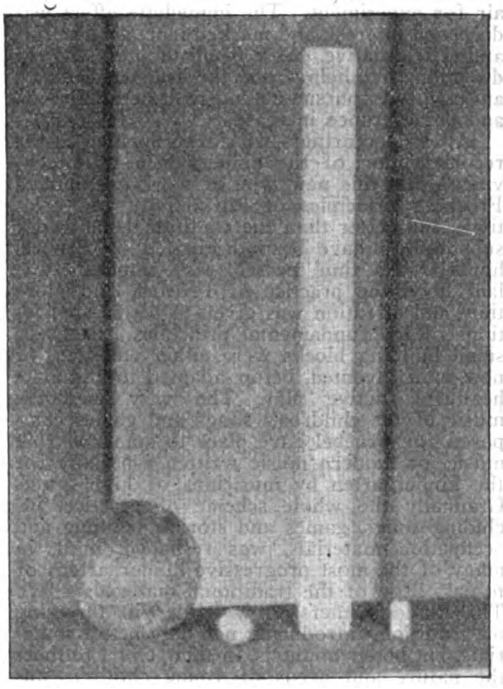
The kindergarten was brought to America by a student of Froebel, Miss Meyer, who afterward married Carl Schurz. Through Mrs. Schurz's work with her own children Miss Elizabeth Peabody of Boston became interested. Miss Peabody was a member of the celebrated Peabody family of Massachusetts—one sister marrying Nathaniel Hawthorne, the other, Horace Mann. She was prominent in the transcendental group of thinkers in the Concord School of Philosophy which influenced many of the pioneer workers in the kindergarten field. Dr. William T. Harris, Miss Susan Blow and Dr. Denton Snyder, as well as Miss Peabody herself, were profoundly influenced by this school of thought, and all in turn devoted themselves to the promotion of the kindergarten idea. After reading Froebel's theories in 1867, Miss Peabody opened a kindergarten in Boston, but without any training. While her kindergarten was pronounced a success by her patrons, to her it was not a true embodiment of the theories of Froebel as she interpreted them. For this reason she closed her kindergarten and sailed for Germany to study at the fountain source. In the meantime Miss Maria Boelte, a young woman trained by Froebel's widow in Germany, was called from London to New York, where she opened a kindergarten in 1872. This was a great success, and finally developed into a training school for kindergartners. Madame Kraus Boelte, after her marriage with Dr. John Kraus, had charge of the work with both children and normal students for many years. She, in New York, Miss Elizabeth Peabody in Boston, Miss Susan Blow in Saint Louis and Mrs. Alice Putnam in Chicago, were the best-known pioneer leaders in the introduction of the kindergarten into America, where it spread with unprecedented rapidity and success. The United States still leads in its appreciation and care of children at the pre-school age, there being between five and six hundred thousand children in the kindergartens in this country in the statistics of 1916. It is a part of the public school system in all of our large cities, and the majority of the cities of the second, third and fourth class.

The training of kindergartners was for many years in the hands of private normal schools, but in the last decade most city and State normal schools in the United States have opened kindergarten departments, and a goodly number of the universities as well. This has

proved to be an effective means in unifying the kindergarten and primary work. In the past the kindergarten child who entered the primary was at a serious disadvantage, due to the different educational ideals held by the teachers of both kindergarten and primary. This great difference in ideals was gradually altered as the kindergarten went into the public schools. That the kindergarten, in time, reconstructed the practice in primary education is a generally accepted fact by students of educational history. Self-activity came to be the cardinal principle in elementary education as well as in the kindergarten, and in many modern schools the kindergarten and primary are so closely organized that a child passes from one to the other without waste of time or energy in adjusting himself to the new work peculiar to the primary grade. These happy changes are due to several causes — first, to the training of kindergartners in city and State normal schools and in universities, with other teachers, instead of the isolated private schools of the early days. Second, to an increasing effort to train teachers of young children in both kindergarten and primary. In the third place, to a movement in favor of training supervisors in both kindergarten and primary, so that the schools may have the advantage of one supervisor who is an expert in each field.

It is unfortunately true that there was a tendency in kindergarten circles for many years to cling too tenaciously to Froebelian theory and practice. In the early history of the kindergarten, it was far in advance of primary education, in both theory and practice. This explains the transformation of primary practice wherever kindergartens were introduced. In time, however, an unwholesome pedagogic self-satisfaction grew up within the kindergarten ranks, which finally resulted in a period of arrested development for the kindergartners and the system. This followed the reconstruction of the primary in the light of kindergarten principles and practice.

When the new science of child study came into education, kindergartners as a whole turned a cold shoulder to its observations and returns, if they did not coincide with the interpretations of child nature made by Froebel and his immediate followers. It must be acknowledged, however, that a small minority of kindergartners gladly gave ear to the new science of child study, especially when it seemed to correspond to their daily experiences in studying and training young children. Difference of opinion was very decided, and gradually and unconsciously, kindergartners divided into two parties — those in favor of modification and reconstruction of kindergarten procedure in the light of modern psychology and child study, and those who clung with loyalty and devotion to the traditions of the past. The progressive movement among kindergartners immediately won the support of psychologists, physicians and the leading educators of the day, all of whom cooperated in reconstructing kindergarten practice. The first form of the reconstructive movement was noticed in the demand for larger handwork for the children in the place of the small processes and materials involved in the perforating, weaving and sewing in use in the early kindergartens. Later, this was either discarded or enlarged, as psychologists, oculists and nerve specialists repeatedly criticised this minute work in both kindergarten and primary. They were equally urgent in demanding that there be less minute accuracy in the use of the small undeveloped muscles of the eye and hand in all of the work done by the children in the kindergarten. Another criticism which followed was that the work with the hand was cultivated at the cost of play with the larger muscles of the body. Sedentary habits were encouraged, when children should be running, jumping, climbing and throwing. It was urged that larger materials be introduced, where the



Comparison of Small Ball and Block of Past with Large Ones of To-day.

fundamental muscles of the legs, arms, hands, back, thorax and abdomen be called into play. The vigorous use of these larger muscles was urged, because through this type of play respiration and circulation are deepened, promoting the health of the child at a period when physical growth is more important than any intellectual acquirement the child may make. As a result, the so-called new school of kindergarten introduced swings, slides, seesaws, ropes, etc., in order to offer every inducement to the children to vigorous physical activity. There was also a demand for introducing larger and more durable materials for the handwork, instead of sewing and weaving with narrow paper strips and cardboard. Weaving with strips of cloth, and sewing more in accord with the type of sewing in use in the schools and society, gradually came into use. One of the first effects of this type of work was seen in the health of the child, but an equally beneficial intellectual stimulus was ob-

servable. With this larger and more durable material the child could make articles which were both interesting and useful in his play and home life. Instead of sewing geometric designs on cardboard, the child was given a coarse needle, thread and cloth, with which dolls could be dressed. As a substitute for paper strips which were woven into geometric designs in a flat paper mat which was of no use to him or to society, the children were given opportunities to make rugs, or hats, or hammocks for the dolls. Instead of folding, cutting and pasting a geometric figure vaguely resembling a kite, the children were given material which made it possible to construct a real kite which could be taken into the open air for experiment. The immediate effect was deepened interest, and marked increase in effort and self-initiative. As a result the necessity for direction and help from the teacher declined and ability to pursue an end with determination and perseverance increased.

All kindergartners who experimented in the reconstruction of the kindergarten were convinced that this new type of work exemplified Froebel's principles of self-activity and creativity far better than the traditional handwork supposed to have been originated by Froebel himself. As time passed, less emphasis was laid upon the practice of Froebel, and more time and attention was given to better applications of his fundamental principles. Froebel's small building blocks were either enlarged, or new ones invented, better adapted to stimulate healthful, active play. The very mediocre music of the children's songs and games composed for Froebel gave place to standard folk music, or modern music written especially for the kindergarten by musicians of high grade. Gradually the whole scheme of practice, including songs, games and stories, building and occupation materials, was reshaped, until, in many of the most progressive kindergartens of to-day, little of the traditional material is left. The kindergartners grew bolder in throwing off tradition, introducing not only better materials, but better methods, in their effort to meet the nature and needs of young children, untrammeled by the interpretations of Froebel and the pioneer workers.

The effort to cling to Froebelian material and methods is dying out, and kindergartners on the whole seem to be more than eager in their study of children, and their search for better means of educating them. This reconstructive movement was greatly increased by the appearance of the first rival institution for educating children of the kindergarten age. At first there was some marked difference of opinion regarding the value of Dr. Montessori's experiment with children of kindergarten age. Some kindergartners utterly denounced the whole movement without investigation, while others, with equal lack of discrimination, went over into the Montessori ranks, with little evidence of distinguishing between the values of the two systems of education. It seems fair to say, however, that in America kindergartners have made an intelligent adaptation of the values of the Montessori System to kindergarten practice, making an effort to discard the weaknesses of both, and organizing their strong points into a new and most promising education for children of this period.

To-day it can be truthfully said that there is no body of teachers more earnestly reconstructing their theory and practice than the kindergartners. They are to be found in large numbers in all summer schools — whether in normal schools or universities, and the number of teachers asking for leave of absence to secure their degrees in the universities gives unquestioned evidence of the fact that the ambition of the kindergartner of to-day is to hold as high a standard for her preparation as a teacher as that required for the teachers in high schools and colleges.

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PATTY S. HILL,
Associate Professor in Education, and Director of Lower Primary Education, Teachers' College, Columbia University, New York City.

KINDI, kēn'dē, **ALCHINDIUS,** ăl-kĭn'dĭ-ŭs, **Abu Yusuf Ya'kub Ibn Ishak Al-Kindi,** Arabian philosopher of the 9th century: b. Kufa and educated at Basra and Bagdad. He came of good family and received the best of instruction through the efforts of his father

who was Governor under two famous Arabian rulers, Mahdi (775–85) and Harun al-Rashid (789–809). He was a very prolific writer and is credited with having written over 200 treatises on philosophy and science, over the whole field of which as known in his day he wandered. He was a very clever and original thinker and even to-day, after a lapse of nearly 1,000 years, his name stands high among the Arabs. Many of his works are now only a name, having long since been lost; yet some relating principally to astrology and medicine, remain to attest his worth as a philosopher and original thinker. Probably numbers of his works disappeared when his library was seized, during the reign of Motawakkil (847–61). Consult De Boer, 'Geschichte der Philosophie im Islam' (Stuttgart 1901); Flügel, 'Al Kindi genannt der Philosoph der Araber' (Leipzig 1857); Nagy, 'Die philosophischen Abhandlungen des al-kindi' (Münster 1897).

KINEALY, kĭ-nē'lĭ, **John Henry**, American engineer and educator: b. Hannibal, Mo., 18 March, 1864. Graduated from Washington University as a mining engineer, he became instructor in that institution (1886–87); professor of agriculture and mechanics in the College of Texas (1887–89); professor of agriculture in the North Carolina College of Agriculture and Mechanical Arts (1889–92); and professor of mechanical engineering in Washington University (1809–1902). On the latter date he retired from college work and became consulting and mechanical engineer, first in Boston (1902–04) and then in Saint Louis. He has invented a number of useful devices which are in general use. Among his published works are 'Steam Engines and Boilers' (1895); 'Charts of Low Pressure Steam Heating' (1899); 'Slide Valve' (1899); 'Centrifugal Fans' (1905); 'Mechanical Draft' (1906); and numerous magazine articles on similar subjects.

KINEMATICS OF MACHINERY. Mechanics may be defined as the study of motion and of the circumstances which influence or affect it. The study of motion alone is a branch of geometry in which the element of time enters. Ampere, 'Philosophie des sciences' (1843), gave to this geometry of motion the name *kinematics;* Reuleaux, 'Theoretische Kinematik' (1875) and others before him called it phoronomics but this term has not been accepted in mechanics. *Kinematics of machinery* — also called kinematics of mechanism, theory of mechanism, applied or technical kinematics — is that phase of the subject which is useful in engineering. It deals with the motions of a complex deformable system subjected to such constraints as will make the motion unique or determinate. According to Koenigs, 'Introduction à une théorie nouvelle des mécanismes' (1905), it is the study of the constraints in machines, a machine being an assemblage of resistant bodies (rigid, flexible or fluid) under mutual constraint upon which force may act. All the methods necessary for the mathematical, as distinguished from the graphical, solution of the most complicated problems were known long before kinematics existed as a separate science. The first attempt to separate it from mechanics in general was made by Monge in 1794; his program was elaborated and published in 1808 by Lanz and Bétancourt, 'Essai sur la composition des machines.' Their system aroused interest, but whatever benefit to the science may have accrued through this stimulus was certainly outweighed by the harm that arose through emphasizing the idea that it was more the province of kinematics to classify and describe machines than to devise simple methods of finding velocities and accelerations. This point of view was strengthened by Willis, who published his famous 'Principles of Mechanism' in 1841. To judge from the 20-page preface to his second edition (1870) Willis regarded classification as of first and last importance. Nevertheless he gave proper kinematic descriptions of an enormous number of mechanisms, was the first to investigate velocity ratios — the ratio of the velocity of the driver to that of the follower — and occasionally improved methods of designing and calculating. It is not easy to-day to understand how Willis exerted so deep an influence for a generation. When one considers the brilliant work done in mathematical kinematics by Euler, Lagrange, Laplace, Poisson, Poinsot and Coriolis, it is not unfair to say that Willis was as antiquated in his own time as he is now. The next noteworthy book in the development of kinematics is Reuleaux, 'Theoretische Kinematik: Grundzüge einer Theorie des Maschinenwesens' (1875), English edition by Kennedy in 1876. To Reuleaux classification is still of fundamental importance. Willis classifies machines according to the way they transmit motion, for example, by rolling contact, sliding contact, wrapping connectors (belts and chains), linkwork and ratchets, each being subdivided according to whether the velocity ratio or the direction of the velocity is constant or variable. Reuleaux on the other hand examines the elements of which machines consist and finds that they always occur in *pairs,* a number of pairs being connected to form a *chain.* In kinematic pairs there may be relative sliding (e.g., crosshead and guide), turning (hinge or pin joint) or sliding and turning (screw and nut). If the contact is between surfaces, as in these examples, the pair is called *lower;* if there is line contact, as in gear wheels, the pair is *higher.* Reuleaux showed that many different mechanisms may be made from the same kinematic chain by holding different elements or links fixed. Neither Willis nor Reuleaux had an efficient method of finding velocities in a mechanism; neither attempted to find accelerations and neither gave sufficient emphasis to the fundamental problem of kinematics, namely, to devise general methods for the determination of velocities and accelerations. The most important treatise on kinematics from this point of view is Burmester's 'Lehrbuch der Kinematik' (1888); this is decidedly superior to anything written before that time and has not yet been surpassed.

Fundamental Theorems. — Three theorems suffice as a basis for the analysis of velocity and acceleration in mechanisms. On account of their importance a rigorous mathematical proof will be given. It is customary to base their derivation on the *postulate of superposition* which states, briefly, that kinematic vectors may be superposed according to the parallelogram law; this method is not convincing when

applied to accelerations and sometimes leads to serious mistakes.

In Fig. 1 it is required to find the velocity of any point P of a rigid body moving in a

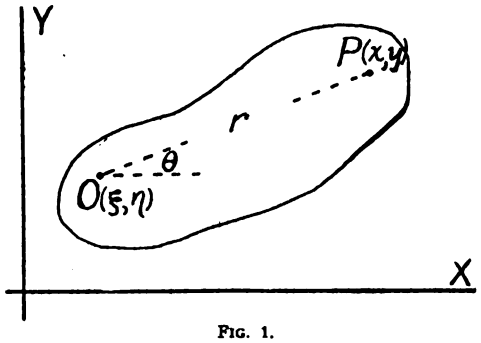

FIG. 1.

plane, the velocity of O and the angular velocity ω of the body being given. The body has three degrees of constraint specified by the co-ordinates ξ, η, θ, i.e., given values of them will fix its position. If a constraint is removed by permitting the corresponding co-ordinate to vary, the body has one degree of freedom. In the following equations one dot over a letter will denote the first time-derivative. From Fig. 1

$$x=\xi+r\cos\theta,\ y=\eta+r\sin\theta;$$

hence since r is constant and $\dot{\theta}=\omega$

$$\dot{x}=\dot{\xi}-r\omega\sin\theta,\ \dot{y}=\dot{\eta}+r\dot{\omega}\cos\theta \quad \ldots(1)$$

where $(\dot{\xi}, \dot{\eta})$ and $(\dot{x}, \dot{y})$ are respectively the velocities of O and P with reference to the fixed axes xy and are thus the so-called absolute as distinguished from the relative velocities. $r\omega$ is that part of the velocity of P which is due to the rotation of P about O; it is normal to OP and is the relative velocity of P with respect to O. Equations (1), giving the components of the relative and absolute velocities of O and P, state that P has two superposed velocities: the absolute velocity $(\dot{\xi}, \dot{\eta})$ of O and the linear velocity r due to the rotation of P about O. Hence

THEOREM I.—*The velocity of any point P of a rigid body having plane motion is the resultant of the velocity of any other point O and the linear velocity due to the rotation of P about O.* Let u and v be the absolute velocities of O and P; then Fig. 2 shows v as the resultant of u and $r\omega$. In symbols

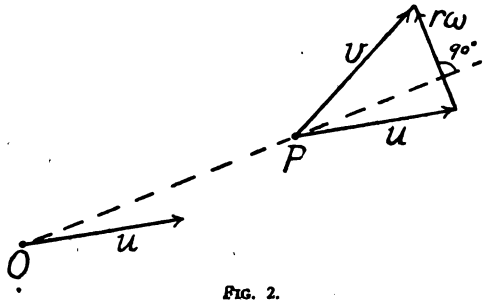

FIG. 2.

$$v=u+r\omega, \text{ vectorially.}$$

This theorem is the basis of the graphical method of velocity diagrams devised by R. H. Smith (Royal Society of Edinburgh, 1885) and now in general use. Consult also his 'Graphics' (1889); and Burmester's 'Kinematik.'

By differentiating equations (1) and denoting the angular acceleration $\dot{\omega}$ by α we find

$$\begin{aligned}\ddot{x}&=\ddot{\xi}-r\alpha\sin\theta-r\omega^2\cos\theta\\ \ddot{y}&=\ddot{\eta}+r\alpha\cos\theta-r\omega^2\sin\theta\end{aligned} \quad (2)$$

where $(\ddot{\xi}, \ddot{\eta})$ is the absolute acceleration of O, $r\omega^2$ the radial acceleration, directed from P to O, due to angular velocity; $r\alpha$ is the tangential acceleration normal to OP due to angular acceleration. Hence

THEOREM II.—*The acceleration of any point P of a rigid body having plane motion is the resultant of the acceleration of any other point O and the linear accelerations of P due to the angular velocity and acceleration of P about O.* ω and α specify the absolute rotation of the body. The theorem may be expressed in a vector equation; if a and a_0 are the accelerations of P and O

$$a=a_0+r\alpha+r\omega^2, \text{ vectorially.} \quad \ldots \quad (3)$$

Theorem II is the basis of all graphical solutions. It can be put into another form. In Fig. 3 let the point C be fixed and let O be a hinged or pin-connected joint so that CO and

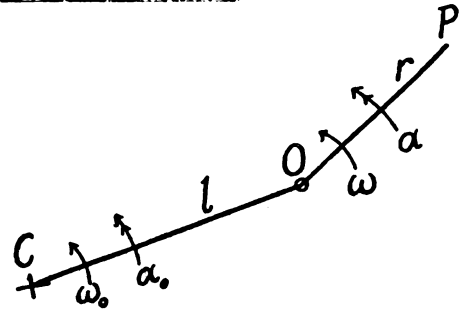

FIG. 3.

OP may have independent angular motions. If ω_r and α_r specify the relative motion of r with respect to l and if ω and α are the absolute motions of r, and ω_0 and α_0 those of l,

$$\omega=\omega_0+\omega_r,\ \alpha=\alpha_0+\alpha_r$$

all quantities being measured in the same sense. By substitution in the previous equation and putting $r\omega_r=v_r$ we get

$$a=(l+r)\alpha_0+(l+r)\omega_0^2+r\alpha_r+r\omega_r^2+2v_r\omega_0 \quad \ldots \quad (4)$$

The plus signs indicate vector addition; for example, $l+r$ is CP. Therefore $(l+r)\alpha_0$ is normal to, and $(l+r)\omega_0^2$ along, CP; $r\alpha_r+r\omega_r^2$ is the acceleration of P relative to the system CO. The term $2v_r\omega_0$ is called the *Coriolis acceleration* after Coriolis, who in 1835 discovered the theorem of which equation (4) is a special case. Since it came from $r(\omega_0+\omega_r)$ it is directed from P toward O; if ω_0 and ω_r are opposite it points from O toward P. Hence we have

THEOREM III.—*The acceleration of any point P of a body in motion with respect to a moving system is the resultant of* (1) *the acceleration of P regarded as fixed to the moving system,* (2) *the acceleration of P relative to the moving system,* (3) *the Coriolis acceleration $2v_r\omega_0$ where v_r is the relative velocity of P and ω_0 the absolute velocity of the moving system;*

$2v_r\omega_o$ is directed toward the centre of curvature of the relative path of P unless ω_o and ω_r are opposite. For other demonstrations consult Routh, 'Advanced Rigid Dynamics' (1905); Burmester was the first to apply the theorem to mechanisms.

Analysis of Velocities.—The following are practically all of the typical velocity problems occurring in the theory of plane mechanisms:

I. Given the velocity of one point of a rigid body, to find the velocity of another point constrained, as by a guide, to move in a given manner.

Fig. 2 illustrates this case; u is the given velocity, and the direction but not the magnitude of v is known; the construction determines v completely. The drawing of the two parallels u may be avoided by noticing that u and v have equal projections on the line between the two points; this means that the line is inextensible.

II. Two rods AP and BP are hinged at P, the velocities u and u' of A and B being given and v, that of P, is required. At P draw the vectors u and v; from the head of u draw a line a perpendicular to AP, and from the head of

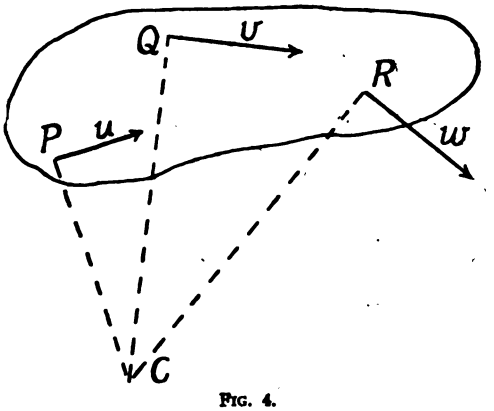

FIG. 4.

v a perpendicular b to BP. Now P is on the rod AP, therefore if the arrow representing its velocity starts at P it must, by I, end on a; v must also end on b. Hence v goes from P to the intersection of a and b.

III. Given the velocities of two points of a rigid body to find that of any other point.

In Fig. 4 u and v are given and w is required. From equation (1) if the velocity $(x, \dot{y})$ of P in Fig. 1 is zero $\dot{\xi}/\dot{\eta} = -\tan\theta$; therefore since $\dot{\xi}/\dot{\eta}$ is the cotangent of the angle the velocity of O makes with X, *that point whose velocity is zero at a certain instant lies on a normal to the velocity of O.* There is evidently only one such point for if there were two the whole body would be instantaneously at rest. This point is called the *instantaneous centre* of rotation; it was discovered by John Bernoulli, 'De Centro Spontaneo Rotationis' (1742) but Descartes had previously noticed it in studying the cycloid. In Fig. 4 the normals to u and v intersect at C which, being the instantaneous centre, lies on a normal to w. As the body rotates instantaneously about C, the velocities are proportional to the instantaneous radii, which fact furnishes an obvious method for getting w.

When C lies off the drawing paper proceed thus. Since the body is rigid u and w must have equal projections on PR, and v and w equal projections on QR. Draw the projections at R and erect normals at their ends; the head of w will lie at the intersection of these normals. This method fails when P, Q, R are collinear. If the instantaneous centre cannot be used note that (a) the projections of u, v, w on PR must be equal, and (b) as the body cannot

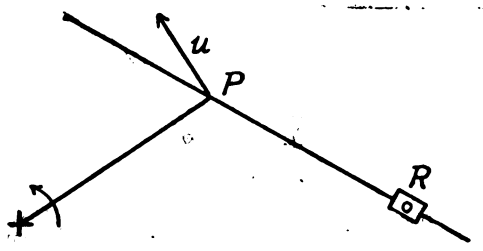

FIG. 5.

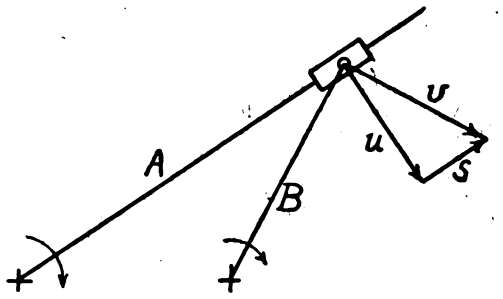

FIG. 6.

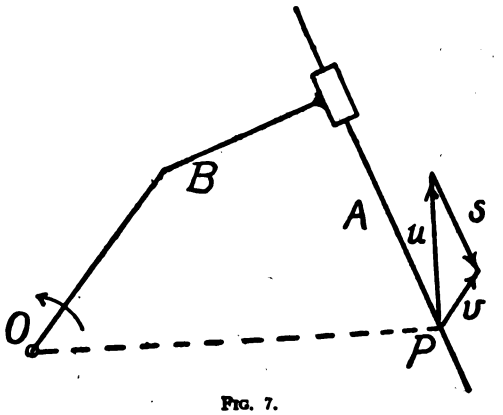

FIG. 7.

bend, the components of u, v, w normal to PR, at P, Q, R must end on a straight line; w is then found from its two components.

IV. To find the velocity of any point on a rod moving in a sleeve. There are several cases which are shown in Figs. 5–7. In Fig. 5 the sleeve is a tube free to rotate about a fixed axis; the rod slides in the sleeve and turns with it. Suppose u to be known. The only point, besides P, whose direction of motion is known is that point R on the rod which is also

at the axis of rotation of the sleeve: it moves along the rod but has no transverse component. Hence the velocity of R is found as in II, and that of any other point as in III.

In Fig. 6 the sleeve slides on A and turns about the end of B. The centre of the sleeve has two motions: s along and u normal to A,

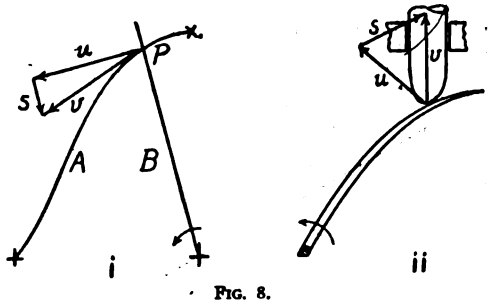

FIG. 8.

their resultant v being perpendicular to B, so that if one of these three velocities is known the vector triangle in Fig. 6 gives the other two.

If, as in Fig. 7, the sleeve is fixed at the end of a rod B, any point P on A will have two motions: s along A, and u normal to OP, their resultant being v. The reader should observe that Figs. 6 and 7 were solved by using the principle of superposition.

V. *Sliding pieces.* These occur in two forms. In an iris diaphragm, a photographic shutter, or a pair of shears, two blades slide over each other, it being required to find the velocity of the point common to the two overlapping edges; in cams and gear teeth two tangential surfaces slide and roll on each other, the problem being to find the velocity ratio of the two pieces.

In Fig. 8 i, A is fixed and B rotates. The velocity v of P is the resultant of u, due to rotation, and s due to sliding along B; u is tangent to A and P. In the toe and lift mechanism, shown schematically in Fig. 8 ii, v is the resultant of u, due to rotation, and s due to sliding along the common tangent. If both pieces in Fig. 8 i turn use the method of superposition: hold A and B fixed in succession. Fig. 9 shows two cams or parts of two gear

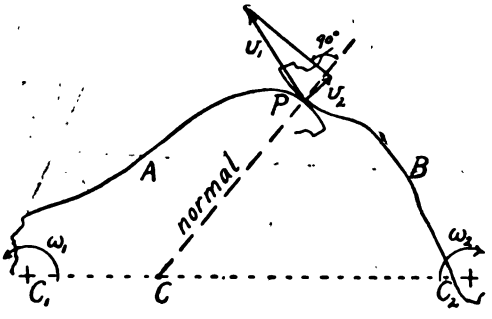

FIG. 9.

teeth turning about fixed centres C_1 and C_2; it is required to find the angular velocity ratio ω_1/ω_2. The point of contact on A has a velocity v_1 normal to C_1P and on B the velocity v_2 is normal to C_2P; these are the actual velocities of points fixed on A and B but coincident at the point of tangency. If the two surfaces are not to separate, v_1 and v_2 must have equal projections on the common normal. If the normal components are equal the tangential components cannot be, for otherwise v_1 and v_2 would be along the same line; hence sliding takes place and the motion is not pure rolling. Now suppose the contours to touch at some other point C. The velocities there can be collinear only if C lies on C_1C_2; if they are equal there will be pure rolling without sliding. In this case the relative motions of A and B are rotations about C, hence as the relative velocities at P are along the tangent and are due to relative rotations about C, C must lie on the normal at P. C is the *pitch point* and C_1C and C_2C the radii of the *pitch circles*. The angular velocity ratio is found from $C_1C\omega_1 = C_2C\omega_2$; if it is constant, as in gear wheels, C must remain fixed, whence the normals at successive points of contact of the teeth must pass through the pitch point. This is the basic law of gear teeth design.

VI. *Pure Rolling.* The simplest case of pure rolling is that of a gear or wheel train;

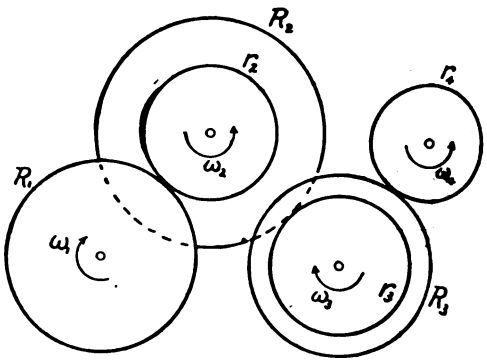

FIG. 10.

Fig. 10 shows the pitch circles, all centres being fixed in position. By equating rim velocities,

$$R_1\omega_1 = r_2\omega_2,\ R_2\omega_2 = r_3\omega_3,\ R_3\omega_3 = r_4\omega_4$$

the product of which gives

$$R_1R_2R_3\omega_1 = r_2r_3r_4\omega_4$$

in which capitals refer to drivers and lower case letters to followers. Sometimes the shafts of all the wheels are mounted in a rigid frame. Let the frame turn $+n$ times around the shaft of the second wheel while this wheel is prevented from turning. The number of turns made by the other wheels is found by the method of superposition as follows. First let R_2 (and of course r_3) turn with the frame; then R_1, R_3 and r_4 make $+n$ turns, there being however no relative motion of the wheels. Now hold the frame fixed and give $-n$ turns to R_2; then R_1, r_3 and r_4 turn respectively $+\frac{r_2}{R_1}n$ $+\frac{R_2}{r_3}n$ and $-\frac{R_2R_3}{r_3r_4}n$ times. Superpose the two motions or imagine them to occur simultaneously. Similar considerations lead to the occasionally surprising result that if a 25-cent piece is rolled once around the circumference of a fixed 25-cent piece it will made *two* turns around its own centre.

Quadric Chain; Inversion; Theorem of Three Centres.— The simplest mechanism consists of four pin-connected or hinged links, Fig. 11, called by Reuleaux the *quadric chain*; it may be regarded as the kinematic unit of mechanisms having surface contact. A considerable number of different mechanisms may be derived from it by *inversion*; this consists in

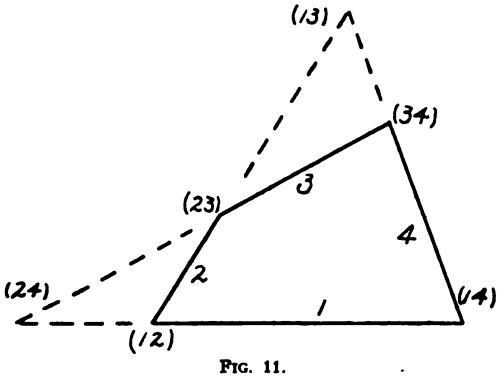

FIG. 11.

fixing any two points on any one link. The idea, due to Reuleaux, is useful in giving an insight into the relationships in families of mechanisms. (Consult Durley, 'Kinematics of Machines,' 1903). Inversion does not change relative motions. The points (12), (23), (34) and (14) are the relative instantaneous centres of the links whose numbers they bear. By holding 4 or 2 fixed we find that (24) is the I. C. (instantaneous centre) of 2 and 4 for motion relative to each other; likewise (13) is the relative I. C. of 1 and 3. Observe that (24), (23) and (34), and (12), (23) and (13) are collinear triplets of the form (xy), (yz), (xz). This is a special case of the *theorem of three centres* now to be proved. Consider Fig. 12, representing three bodies having relative plane motion.

The I. C. of the relative motion of two pieces is that pair of coincident points (one on each body, extended if necessary) having the same velocity, for their relative velocity is then zero;

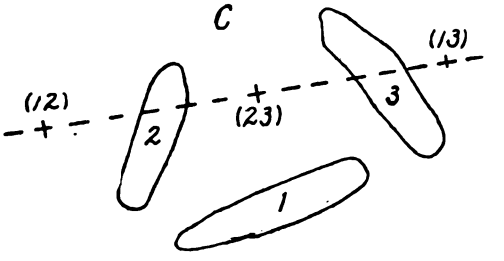

FIG. 12.

each body thus turns about the I. C. relatively to the other. Let (12) and (13) be known in Fig. 12. If (23) is at some such point as C the velocity of C, considered as being part of 2, is normal to (12) C; when it belongs to 3 its velocity is normal to (13) C. These velocities have different directions and cannot be vectorially equal unless they are collinear, whence (23), the correct position of C, must lie on (12) (13). The utility of the theorem of three centres is illustrated in Fig. 13; the two crosses indicate fixed centres. By the theorem, (13) is collinear with (12) and (23), and also with (15) and (53); therefore it lies at the intersection of two lines through these pairs. The most detailed discussion of the theorem is given by Klein, 'Kinematics of Machinery' (1917).

Kinematically Determinate Mechanisms.— Any system of interconnected bodies is kinematically determinate when the velocity of one point determines the relative velocity of every other point. When the mechanism consists of P pins interconnected by l links the criterion of determinateness is found as follows: It takes 3 links to connect 3 of the pins into a rigid triangle; each remaining pin requires 2 links to fasten it rigidly to the frame already formed,

$$\therefore 3+2(p-3)=2p-3 \quad \textit{links}$$

will connect p pins into a rigid coplanar network. Each link represents a constraint. If one link is removed one degree of freedom will be introduced and the frame will be uniquely deformable. Hence

$$l=2p-4$$

is the relation between the number of links and pins in a kinematically determinate mechanism.

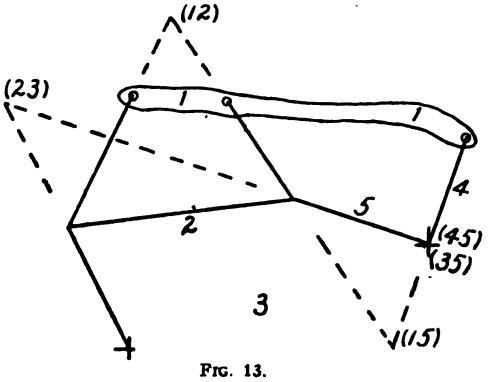

FIG. 13.

The criterion requires interpretation in special cases.

(i). Fixed pins are those fastened to some frame of reference. Two such pins are equivalent to one link; for f fixed pins there are virtually $2f-3$ links. If f of the p pins are fixed and there are l actual links

$$l+2f-3=2p-4.$$

(ii). One link having 3 pins on it counts as 3 links since it may be regarded as a collapsed triangle; a link with m pins counts as $2m-3$ links.

(iii). A crosshead or sleeve is equivalent to a link of zero length; it must therefore be counted as 2 pins and 1 link.

(iv). A point at which there is line contact, as in cams and gears, counts as 2 pins and 1 link.

Centrodes.—The locus in *space* of the instantaneous centre is called the *space centrode*; the locus in the *body* is the *body centrode*. The term centrode is due to Clifford, 'Elements of Dynamics' (1878); the idea, however, is found in Poinsot, 'Théorie nouvelle de la rotation' (1851) and Reuleaux. The latter used it in

place of the foregoing methods. In Fig. 14 $C\ C_1\ C_2$ and $C\ c_1\ c_2$ represent simultaneous or corresponding points on the two centrodes. Since the instantaneous centre will take the positions C_1 and C_2, c_1 and c_2 must fall on them

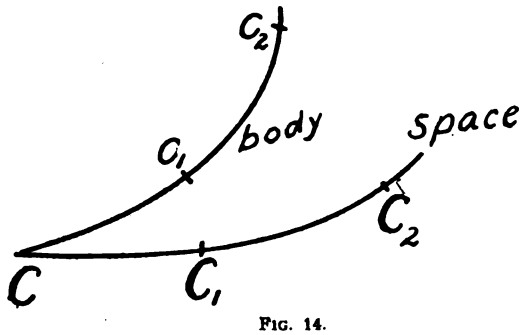

FIG. 14.

during the motion. No sliding will occur since the body rotates about the instantaneous centre, hence the body centrode rolls on the space centrode. For example, the circumference of a wheel is the body centrode and the line along which it rolls is the space centrode.

Accelerations.— It is not easy to find accelerations except in simple mechanisms; fortunately only simple cases arise in practice. In the four-bar linkage or quadric chain, Fig. 15 i,

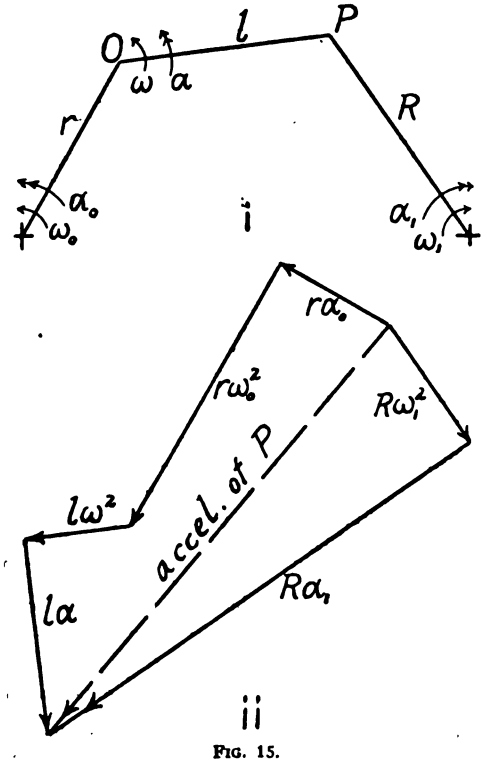

FIG. 15.

if ω_0 and α_0 are known, ω and ω_1 can be found because the linear velocity of P can be found by the method shown in Fig. 2. Hence $l\omega^2$ and $R\omega^2$, the radial accelerations of P, can be computed. If v is the velocity of P relative to O, $v=l\omega$ or $v^2/l=l\omega^2$; i.e., $l\omega^2$ is a third proportional to l and v and may therefore be found by geometric methods; this applies also to $r\omega^2$ and $R\omega_1^2$. By Theorem II above the acceleration of P is the resultant of $r\omega^2$, $r\alpha_0$, $l\omega^2$, $l\alpha$; it is also the resultant of $R\omega_1^2$ and $R\alpha_1$, whence the construction in Fig. 15 ii. Other methods are given by Land "Geschw. — und Beschl. — Plan für Mechanismen" (*Zeit. d. Ver. deut. Ing*, 1896) and Rittenhaus, 'Der Civilingenieur' (1880, p. 244). The ordinary connecting rod mechanism may be solved by special methods which are quicker. Let the crank in Fig. 16 turn at constant speed ω. The velocity of C is given according to Fig. 2 by the construction at C; v is the velocity of C *relative to* P. Draw OQ vertical, then OPQ is similar to the velocity triangle. If ω is called

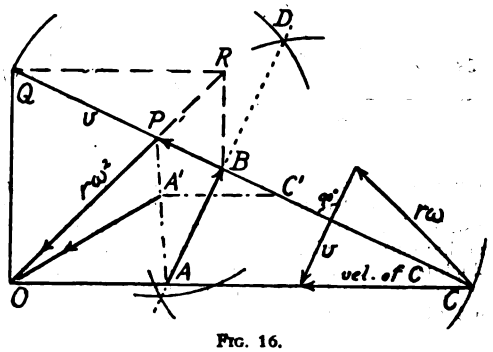

FIG. 16.

unity the triangles will be equal so that PQ represents the relative velocity v and OP represents both $r\omega$ and $r\omega^2$. With P as centre and radius $PQ=v$ draw an arc; on the connecting rod as diameter draw an arc intersecting the former in two points and through them draw the chord. Since BD is a common ordinate in the two semi-circles on CQ

$$BD^2=(v+BP)\ (v-BP)=(l-BP)\ BP$$

or
$$BP=\frac{v^2}{l}$$

Hence as two sides ($PO=r\omega^2$ and BP) and all directions of the acceleration polygon of C are known the remaining quantities are determined; i.e., AO is the acceleration of the crosshead. This construction was found independently by Kirsch, "Graphische Bestimmung der Kolbenbeschleunigung" (*Zeit. d. Ver. deut. Ing.* 1890) and Klein, "Force of Inertia of Connecting Rods" (*Journal Franklin Institute*, 1891). The following method is due to Mohr, "Konstruktion der Beschleunigung am Kurbelgetriebe," *Der Civilingenieur* (1880). From where the horizontal through Q in Fig. 16 cuts the crank draw a vertical RB and then BA perpendicular to the connecting rod. AO is the acceleration of C because from similar triangles

$$\frac{BP}{v}=\frac{PR}{PO}=\frac{v}{l}$$

or
$$BP=\frac{v^2}{l}$$

as before.

The acceleration of any other point C' on the connecting rod is needed in Dynamics of Machinery (q.v.). $AB+BP=AP$ is the accel-

eration of C relative to P and, being of the form $l\alpha+l\omega$, is proportional to $l=PC$. The relative acceleration of any other point C' is thus proportional to PC'; consequently if $C'A'$ is drawn parallel to CO, $A'P$ will be the relative acceleration of C', PO the acceleration of P, and $A'O$ *the resultant acceleration of* C'.

RICHARD F. DEIMEL,
Assistant Professor of Mechanics, Stevens Institute of Technology.

KINETIC THEORY OF GASES. See GASES, KINETIC THEORY OF.

KINETOGENESIS, in evolution, the mechanical process of a transformation of parts, especially parts belonging to the internal skeleton, skull and limbs, is very ingeniously interpreted by Cope as having been accomplished in mammals through the agency molar motions, use and food. The motion itself is neo-Lamarckian. Cope's proposal (it was he who brought the term into existence) is to "cite examples of the direct modifying effect of external influences on the characters of individual animals and plants." The influences which thus play a part in evolution fall into two classes. They are either physico-chemical, or molecular; or, they are mechanical, or molar. A gradual transformation of the parts of an organism is supposed by Cope to be the result of these influences. The two types of influence which thus express themselves in evolution, Cope calls Physiogenesis, which operates through molecular action; and Kinetogenesis, which expresses itself as molar motion. Cope has likewise traced the line of progression in fossil genera as exemplified by numerous series of intermediate forms. But Herbert Spencer also contributed much in this direction by his theory of the mechanical origin of the segmentation of the body in vertebrates, leading (as he thought) to the formation of vertebræ.

This term suggested by E. D. Cope, meaning development by motion, or the exercise of parts or organs, is nearly the equivalent of use (q.v.). The examples given by Cope are the development by usé of muscles of any hard parts or bone. He claims that muscular tissue is highly plastic, and since it is directly controlled by nervous or equivalent stimuli, "the effect of the latter in building structure is evident." Another example, overlooked by late students, is the beautiful study on the mechanical genesis of bone structure published by Wyman in 1857. This anatomist shows that the cancellated structure of the bone (see BONE) in the lumbar vertebræ, the thigh-bone, tibia, astragalus and os calcis of man is peculiar to him, and has "a definite relation to the erect position which is naturally assumed by man alone."

The fibres or cancelli of such bones as assist in supporting the weight "are arranged either in the direction of that weight, or in such a manner as to support and brace those cancelli which are in that direction. In a mechanical point of view they may be regarded in nearly all these bones as a series of studs and braces." Wyman dealing with the individual bones shows in what direction force or weight is applied to them, and the corresponding direction the cancelli assume. On the lumbar vertebræ there is vertical pressure, and the principal bone fibres within are also vertical. On the neck of the thigh bone the weight of the body is applied obliquely to the end of an arm, "within it there is a combination of fibres giving strength with lightness, which forms a frame mechanically adapted for resisting the weight which rests upon it," and so with the astragalus. "A certain direction of fibres in all these instances co-exists with a certain direction, or certain directions, of the transmission of pressure. From this constant association of structures and function the inference seems unavoidable, that they are means and ends."

Comparing the bones in question with those of the gorilla and chimpanzee, only "slight traces of the trusswork described in man exist." As they practically exist in man alone, Wyman maintains that "they relate to the kind of locomotion which he alone of the whole animal series can be said to possess, namely, that of walking erect, and which requires in the passive and resting organs subservient to it, in order that it may be effected with ease and grace, a nice combination of lightness with strength in the materials. His attitude more than any other, in consequence ot the pillars of support being arranged in vertical planes, requires the most effectual means for counteracting shocks."

Cope's contributions to this subject in the way of materials drawn from fossil vertebrates are extensive and weighty. He, and also Ryder, have discussed the molding of the limb-joints as the result of mechanical strains; also the origin of the teeth, through mechanical strains or impacts. Thus the origin of the canine, pseudo-canine and caninė-like incisor teeth "is due to the strains sustained by them on account of their position in the jaws at points which are naturally utilized in the seizing of prey, or the fighting of enemies." For example the greatly increased size of the canine teeth of the walrus is due to the use of these teeth in the breaking of ice, and in climbing from the water upon the edge of the floe ice. It is so, adds Cope, with the straight incisors of the hippopotamus, "use as diggers has straightened them to a horizontal from their primitive vertical direction, a change which is also partially accomplished in the true pigs (*Sus*)."

The molar teeth owe their increased diameters to much more severe direct irritation and impact. The origin of the sectorial or shear-like molar teeth of the cat, lion and other carnivora is thus explained by Cope: "The specialization of one tooth to the exclusion of others as a sectorial appears to be due to the following causes: It is to be observed in the first place that when a carnivore devours a carcass, it cuts off masses with its sectorials, using them as shears. In so doing it brings the part to be divided to the angle or canthus of the soft walls of the mouth, which is at the front of the masseter muscle. At this point the greatest amount of force is gained, since the weight is thus brought immediately to the power, which would not be the case were the sectorial situated much in front of the masseter. On the other hand, the sectorial could not be situated farther back, since it would then be inaccessible to a carcass or mass too large to be taken into the mouth."

The great length and chisel-like incisor teeth of the squirrel and other rodents also illustrate this subject. Their progressive lengthening

through exercise has been explained by Ryder, who shows that the mechanical action involving backward pressure is precisely the opposite of that which has occurred to the carnivora, where the pressure has always been forward owing to the development of the canines.

The direct evidence in favor of the kinetogenetic mode of evolution is greatly strengthened by the discovery of Ameghino in the Tertiary beds of the Argentina of one-toed ungulates with two splint bones, and with teeth strikingly like those of the horse, though the animal belongs to a quite different order. The similarity or divergence in shape of the parts is due to the action of similar mechanical conditions in two quite unrelated groups. The same results of strains involved in digging are seen in the fore legs of the fossorial edentates, in the mole, as well as in the mole cricket. Thus as Cope concludes, "in biologic evolution, as in ordinary mechanics, identical causes produce identical results."

It is to be observed, however, that "ordinary mechanics" does not state that "identical causes produce identical results." The truth appears to be that in the great paleontologist, Cope, we have another instance of a man's thought being much wider and richer than his system. M. Bergson has recently made a point aganst a mechanical mode of intellectual appropriation and just because he understood the law of causality in the sense mentioned by Cope. The principle, "identical cause, identical effect," which is sometimes said to be the principle of causality, is much narrower in its scope than the principle which really occurs in physics and chemistry,—in science in general. Indeed, the principle "identical cause, identical effect," strictly interpreted, has no scope at all in ordinary mechanics, since the same cause never recurs exactly. Both Cope and Bergson state the law of causation too narrowly. The law does not state merely that, if the same cause is repeated, the identical effect will be repeated. It states rather that there is a constant relation between causes of certain kinds and effects of certain kinds. What is constant in a truly causal law is not the object or objects given, nor yet the object inferred, both of which may vary within wide limits, but the relation between what is given and what is inferred. It is not asserted here that the great naturalist was unconscious of the significance of the principle. On the contrary we feel that it was plainly operative in his thought world. But in view of the great ado nowadays over teleology and aetiology as modes of intellectual appropriation of the subject called life, it appears that science cannot too often remind itself that freedom is the postulate of teleology, and determinism (causation) the postulate of science. Further, it is not so much required to deny teleology in the domain of organized nature as to purify and sift our views of teleology. There is a kind of teleology which does not stand in contradiction to the causation of efficient causes so called. The kind of causation in question has just been mentioned. Consult Cope, E. D., 'The Primary Factors of Organic Evolution' (Chicago 1896); Wyman, 'On the Cancellated Structure of Some of the Bones of the Human Body' (in *Journal of the Boston Society of Natural History*, Vol. VI, Boston 1857).

KINETOPHONOGRAPH, an electrophotographic apparatus combining the principles of the kinetograph, the vitascope, and the phonograph, invented by Thomas A. Edison. It is a combination of a motion picture machine and a phonograph operating synchronously. See MOVING PICTURES.

KING, Albert Freeman Africanus, American physician: b. Oxfordshire, England, 18 Jan. 1841; d. Washington, D. C., 13 Dec. 1914. He was graduated from Columbian (now George Washington) University in 1861, and from the University of Pennsylvania in 1865. He was professor of obstetrics in the medical school of George Washington University from 1871 to 1913 and dean 1879–94, and was also professor of obstetrics at the University of Vermont 1871–1913, and was president of the Washington Obstetrical and Gynecological Society 1885–87. He wrote a 'Manual of Obstetrics' (1882; 11th ed., 1910); 'Effect of Ultra-Violet Rays on Malarial Fever' (1902). He urged with enthusiasm the theory of the mosquito transmission of malaria, a claim which, republished in 1883, was accepted in 1899 by the medical world as correct; and he was the first to advocate measures for personal and municipal use in the way of prevention.

KING, Anna Eichberg. See LANE, ANNA EICHBERG KING.

KING, Basil. See KING, WILLIAM BASIL.

KING, Charles, American journalist, president of Columbia College: b. New York, 16 March 1789; d. Frascati, Italy, 27 Sept. 1867. He was the second son of Rufus King (q.v.), and during the residence of his father as American Minister at Saint James he was sent with his brother to Harrow school. Upon the breaking out of hostilities with Great Britain, King, though a Federalist, deemed it right that the war should be prosecuted to an honorable and successful result; and as a member of the legislature of his native State in 1813, and as a volunteer in the autumn of 1814, he acted upon those sentiments. In 1823 he became associated with Johnston Verplanck in the publication of the *New York American*, a conservative newspaper, of much political influence and a high literary character, until 1827 when Verplanck retired and Mr. King continued sole editor. After its publication was discontinued Mr. King was associated in the conduct of the New York *Courier and Enquirer* 1845–49, when he was chosen president of Columbia College, which office he occupied until 1864.

KING, Charles, American soldier and novelist: b. Albany, N. Y., 12 Oct. 1844. He was graduated from West Point in 1866 and was in active service in the United States army till his retirement because of wounds in 1879. In the war with Spain he was a brigadier-general of volunteers and served in the Philippines under Generals Otis, Anderson and Lawton. He has published a long series of popular novels treating of army and frontier life and people, among the best of which are 'The Colonel's Daughter' (1883); 'Between the Lines' (1886) and 'The True Ulysses S. Grant' (1915). For thirty years he has been the instructor of the Wisconsin National Guard.

KING, Clarence, American geologist: b. Newport, R. I., 6 Jan. 1842; d. Phœnix, Ariz.,

24 Dec. 1901. He was graduated from the Sheffield Scientific School of Yale University in 1862, in 1863–66 was a member of the California geological survey under the direction of Prof. J. D. Whitney (q.v.), discovered Mounts Whitney and Tyndall, the highest group in California, and with J. T. Gardiner executed the first survey of the Yosemite Valley. In 1866 he originated the plan for a survey of the western Cordilleran region at its widest point. This plan was finally sanctioned by the government and under the auspices of the army engineering department and King's direction, was executed as the "survey of the 40th parallel" and completed in 1872. The survey has been characterized as a "signal contribution to the material of science." The volume on 'Systematic Geology' (1878), the first of six constituting the report, was written by King and has been highly esteemed. In 1872 certain swindlers sowed a tract in Arizona broadcast with rough gems; the discovery of valuable diamond fields was announced, and companies were organized for the exploration of the find. The "fields" proved to be within the official limits of the 40th parallel survey, and were thereupon examined by King, who detected and proclaimed the fraud. In 1878 King organized the various surveys then active into the United States Geological Survey under the general direction of the Secretary of the Interior, and was appointed director of the survey. He resigned in 1881, attained a large practice as a mining expert, and undertook an uncompleted series of experiments to determine the action of the primal constituents of the earth under the conditions assumed as existing at the time of its separation from the sun. Partial results were published by him in Silliman's *Journal* (January 1893) in an article on "The Age of the Earth." He wrote also, 'Mountaineering in the Sierra Nevada' (1871), a description of his explorations, and a work of literary as well as scientific value.

KING, Dan, American physician, writer, philanthropist and statesman: b. Mansfield, Conn., 1791; d. 1864. Graduating in medicine, he practised his profession in his native town and in Preston, Conn., and Charleston, R. I. He served in the legislature of the latter State (1828–34). Throughout his legislative career he was one of the strongest advocates of suffrage and as such became known in political and other circles throughout the United States. In this same connection his attention became directed to the pitiable condition of the Narragansett Indians. His efforts directed the attention of the State to them, and he was appointed one of a commission to inquire into the condition of the Indians and to report on them and the best manner of dealing with the difficulty. He succeeded in having an Indian school established and other measures of relief made for the Indians. This was practically the beginning of the measures that have since been taken to help the Indians toward American citizenship and a place in the great American community. Dr. King wrote considerable, generally on subjects that interested him deeply; but of all his writings perhaps the most interesting is his 'Life and Times of Thomas Wilson Dorr' (1859) the leader of the suffrage movement which King so strenuously supported. He did not agree in every particular with Dorr, and he disapproved of the manner in which the latter acted after the signal defeat of the party.

KING, Edward, Anglo-Irish poet: b. Ireland, 1612; d. in shipwreck off Welsh coast, 1637. Educated at Cambridge University, he became Fellow there in 1631. He was a man of scholarly attainments and good poetic taste which was shown in his Latin poems. He met Milton at Cambridge and the two became very close friends. Milton had a strong influence over King and, had the latter lived, he might have produced some literary work of more general interest than that which he left at his premature death. As it is, he is chiefly noted as being the inspiration of 13 poems by Milton published under the title of 'Obesquies to the Memory of Mr. Edward King' (1638), among these being 'Lycidas.'

KING, Edward Viscount Kingsborough, Irish writer and archæologist: b. 1795; d. 1837. He was the eldest son of the third earl of Kingston and was educated at Oxford. Leaving college he became a member of Parliament (1818–26); but after eight years of public life he resigned his seat in favor of his brother, who took a great deal more interest in politics than did the elder member of the family who had already become a confirmed antiquarian, deeply attracted toward the ancient civilizations of Mexico. In fact Kingsborough, as he is usually called, is one of the most interesting of all the collectors of the remains of the ancient Mexican civilizations. After several years spent in the work of examining and collecting the Aztecs and other manuscripts of the pre-Columbian Mexican civilization, he began, in 1830, the publication of his monumental work on 'The Antiquities of Mexico,' which was gradually issued in London in nine superb volumes, profusely illustrated. No author probably in all history has accomplished so much in a direction he was not consciously working as Kingsborough. He set out with the intention of proving that the people of Mexico were of Jewish origin and the descendants of the lost 10 tribes of Israel. To this all his acute reasoning, his undoubted erudition and his enthusiasm combined with his diligence were directed. From all the libraries of the Old and the New World he collected manuscripts and codices and other remains of pre-Columbian life supplemented with other documents following the conquest of Mexico. All the documentary material in the form of codices and several most valuable documents of post-conquest days, he included in his publications, the codices being reproduced in color at an enormous expense. In fact so great was the cost of collection, examination and publication of this material that it exhausted Kingsborough's fortune, and he was arrested by his printer and cast into a debtor's prison in Dublin where he died of typhus contracted in what was then one of the most insanitary prisons of the British domains. Among the valuable texts published in Kingsborough's work is the 'History of New Spain' by Sahagun, which is the most fruitful and interesting of the existing documentary evidence of the pre-Columbian civilization of Mexico and Central America, with perhaps the one exception of the existing codices relating to pre-conquest Mexico. Kingsborough's work

was looked upon as a marvel of the printer's and engraver's art in his day; and the present generation is little inclined to dispute this estimate, when the circumstances under which it was executed are taken into account. How costly and on what a grand scale the work was done may be gathered from the fact that, though the edition with colored plates sold for £175 and the uncolored for £120, yet the author came far from meeting the expenses incurred in its production. 'The Mexican Antiquities' is a storehouse of material and documents relating to native Mexican civilization, and is for this reason invaluable to the student of this period in the history of America and of the civilization of the western hemisphere. But there is little order in the arrangement of the contents of the work which contain the comparatively few interpretations of the manuscripts existing in Kingsborough's time. The author has added copious notes of his own, which lose a great part of their authority and effectiveness owing to the fact that he bent every argument and investigation to prove his theory of the Jewish origin of the Mexican people. Thus his erudition and his industry run too often to waste. His work itself is generally in a disorder bordering on chaos and his notes and explanations are frequently tiresome, for this reason and the fact that he intrudes everywhere, in the most serious discussion, his pet theory. Yet so great is the amount of valuable material of a past age that he has brought within reach of the student and the antiquarian, that the world of science readily acknowledges its debt to him; for in presenting the civilization of pre-conquest Mexico he has furnished documentary evidence and material for the investigator into all the civilizations of America in the ages preceding the middle of the 16th century. Consult Bancroft, 'Native Races'; Kingsborough, 'Mexican Antiquities'; Prescott, 'Conquest of Mexico.'

KING, Edward, English theologian: b. Westminster, 1829; d. 1910. Graduated from Oxford University (1851), he studied theology and was ordained priest four years later. He joined theTractarian movement and, after holding several churches, became canon of Christ Church, Oxford, and professor of pastoral theology in the university there (1873). He was extremely High Church and was charged with practices of a ritualistic nature "not in accord with the laws of the Church" and tried before the bishop of Canterbury. In the contest he had rather the better of his opponents. That he did not suffer in the estimation of the public is seen in the fact that he was very popular and had a great influence over young men. He became bishop of Lincoln in 1885. Among his published works are 'Meditations on the last Seven Words' (1874); 'The Love and Wisdom of God' (sermons, 1910); 'Counsels to Nurses' (1911); 'Duty and Conscience' (1911); 'Sermons and Addresses' (1911).

KING, Grace Elizabeth, American writer: b. New Orleans, 1852. She was educated in New Orleans, contributed much to periodicals, and published in the *New Princeton Review* in 1886–88 Creole sketches which won considerable reputation and constituted the story 'Monsieur Motte' (1888). Among her further works are 'Tales of Time and Place' (1888); 'Earthlings' (1889); 'Chevalier Alain de Triton' (1889); 'Jean Baptiste Lemoine, Founder of New Orleans' (1892); 'Balcony Stories' (1893); 'New Orleans: The Place and the People (1896); 'De Soto and his Men in the Land of Florida' (1898); 'History of Louisiana' (1893), and 'Stories from Louisiana History' (1905).

KING, Helen Dean, American biologist: b. Oswego, N. Y., 1869. Graduated from Vassar and Bryn Mawr colleges, she taught biology at the latter school (1897–1907), during a part of which time she was fellow in research work at the University of Pennsylvania and she became assistant, in this latter institution, in anatomy (1908–09). She has also been connected with other colleges and has devoted much of her time and efforts to the determination of sex and the problems connected therewith, a subject on which she has written and lectured extensively.

KING, Henry Churchill, American theologian and educator: b. Hillsdale, Mich., 18 Sept. 1858. He was graduated from Oberlin in 1879, from the Oberlin Theological Seminary in 1882, studied also at Harvard and Berlin, was associate professor of mathematics at Oberlin in 1884–90, associate professor of philosophy in 1890–91, and professor of philosophy in 1891–97. In 1897 he was appointed professor of theology, and in 1902 president. In 1893 he was a member of the National Educational Association's committee of ten. He lectured at Yale (1907), Harvard (1909), and Columbia (1913) universities and in India, China and Japan in 1909–10. His works are 'Outline of Erdmann's History of Philosophy' (1892); 'Outline of the Microcosmus of Hermann Lotze' (1895); 'The Appeal of the Child' (1900); 'Reconstruction of Theology' (1901); 'Theology and the Social Consciousness' (1902); 'Personal and Ideal Elements in Education' (1904); 'Rational Living' (1905); 'Letters on the Greatness and Simplicity of the Christian Faith' (1906); 'The Seeming Unreality of the Spiritual Life' (1908); 'The Laws of Friendship, Human and Divine' (1909); 'The Ethics of Jesus' (1909); 'The Moral and Religious Challenge of Our Times' (1911), and 'Religion as Life' (1913).

KING, Henry Melville, American Baptist clergyman: b. 3 Sept. 1838. He was educated at Bowdoin College and Newton Theological Institution. He was ordained to the Baptist ministry 28 Aug. 1862. He was instructor in Hebrew in Newton Theological Institution, 1862–63, and then served in turn Dudley Street Church, Boston, 1863–82; Emmanuel Church, Albany, N. Y., 1882–91, and First Church, Providence, R. I., 1891–1906. Since then he has been pastor emeritus. He has been an officer and trustee of several church societies and institutions. He was president of the Northern Baptist Education Society, 1875–82, and of the Rhode Island Baptist State Convention, 1891–95. He is an authority on the history of his denomination. His works include 'Early Baptists Defended' (1880); 'Mary's Alabaster Box' (1883); 'Our Gospels' (1895); 'Summer Visit of Three Rhode Islanders to Massachusetts Bay' (1896); 'The Mother Church' (1896); 'The Baptism of Roger Williams' (1897); 'The Messiah in

the Psalms' (1899); 'Why we Believe the Bible' (1902); 'Religious Liberty' (1903); 'John Myles and the founding of the first Baptist Church in Massachusetts' (1905); 'Historical Catalogue of the First Baptist Church in Providence' (1908); 'Sir Henry Vane' (1909); 'Prayer and its Relation to Life' (1912); 'Thinking God's Thoughts after Him' (1914).

KING, Horatio, American statesman: b. Paris, Me., 21 June 1811; d. Washington, D. C., 20 May 1897. He learned the printer's trade and published *The Jeffersonian* in his native town, and subsequently in Portland, 1831–38. The next year he was appointed clerk in the Post Office Department in Washington; became First Assistant Postmaster-General in 1854; was Postmaster-General January–March 1861; and was the first man in public office to deny the power of a State to withdraw from the Union. He published 'An Oration before the Union Literary Society of Washington' (1841); 'Sketches of Travel; or Twelve Months in Europe' (1878).

KING, James Marcus, an American clergyman: b. Girard, Pa., 18 March 1839; d. Philadelphia, Pa., 3 Oct. 1907. After graduating from Wesleyan University, 1862, he taught six years in the Fort Edward Collegiate Institute, of which his brother, Rev. Joseph E. King, was principal for 59 years. He entered the ministry of the Methodist Episcopal Church in 1866. After serving various important churches in the Troy and New York conferences, he became in 1899 assistant corresponding secretary of the Board of Church Extension, and the following year became secretary, following Dr. W. A. Spencer. The work of the society was enlarged in 1907 and became the Board of Home Missions and Church Extension of the Methodist Episcopal Church. Dr. King was the first corresponding secretary and served until his death. He was a member of the Ecumenical Conferences of 1881, 1891 and 1901. He was honorary corresponding secretary and chairman of the Evangelical Alliance. He served the League for the Protection of American Institutions as its secretary from 1889 until his death. He was the author of several pamphlets and 'Facing the Twentieth Century — Our Country: Its Power and Peril' (1899).

KING, John, American eclectic physician and author: b. near New York city, 1 Jan. 1813; d. North Bend, Ohio, 19 June 1893. Received a liberal education and was graduated in medicine at the Reformed Medical College of the city of New York, in 1838, under the celebrated Dr. Wooster Beach. In 1848, he was the first secretary of the National Eclectic Medical Association, and, in 1878, president of that body as reorganized in 1870. From 1849 to 1851 he was professor of materia medica, therapeutics and medical jurisprudence in the Memphis Medical Institute at Memphis, Tenn., from 1851 to 1856 and 1859 to 1890, professor of obstetrics and diseases of women and children in the Eclectic Medical Institute of Cincinnati, Ohio. From 1856 to 1859 he taught obstetrics in the Cincinnati College of Eclectic Medicine and Surgery. Dr. King discovered the resins of podophyllum (podophyllin) and macrotys, and the oleo-resins of capsicum and iris. He wrote 'Urological Dictionary,' 'American Dispensatory' (1853); 'American Obstetrics' (1855); 'Women: Their Diseases and Treatment' (1858); 'The Microscopist's Companion' (1859); 'The American Family Physician' (1860); 'Chronic Diseases' (1866), and the 'Coming Freeman' (1886), the last named in behalf of the laboring classes and dedicated to the Knights of Labor. He is regarded as the father of American Materia Medica.

KING, John Alsop, American politician: b. New York city, 1788; d. 1867. He was the son of Rufus King (q.v.); was educated at Harrow, England, then returned to New York to study law, and was admitted to the bar. In 1812 he served as lieutenant of cavalry, was elected to the State assembly in 1819, and several times re-elected till 1823, when he was elected to the senate. Though an opponent of Clinton, he strongly favored the building of the Erie Canal. In 1825 he went with his father to England as secretary of the legation, and on his father's return to the United States on account of ill health, he remained as chargé d'affaires. In 1838 he was again a member of the New York legislature for several terms; and in 1849 he was elected to Congress as a Whig and there opposed all compromise measures, especially the Fugitive Slave Law. He was one of those active in the founding of the Republican party; presided at the Syracuse convention of 1855; and was a delegate to the Philadelphia convention of 1856. In 1857 he became governor of New York State and in that office gave special attention to educational matters and internal improvements; he declined a renomination in 1860. He was one of the presidential electors in 1860, voting for Lincoln, and in 1861 was a member of the Peace Convention.

KING, Jonas, American missionary and writer: b. Hawley, Mass., 29 July 1792; d. Athens, 22 May 1869. After graduation at Williams College and Andover Seminary, he turned to home missionary work; but, after a while he determined to prepare himself for the foreign mission field. To this end he went to Paris to study Arabic under Dr. De Sacy, one of the great Arabic scholars of his day. On his return he entered Amherst College as professor of Oriental Languages (1822–28). Resigning his position at Amherst he went as a missionary to Greece, where he was soon in trouble with the Greek Church which ordered his arrest on the charge of profaning things sacred. He seems to have been very aggressive and to have had very little tact in the prosecution of his work, which promised well in the beginning but which virtually went to pieces toward the end. He was a man of scholarly attainments and wrote in both English and Greek. His miscellaneous works in the latter language were published in Athens. His best-known work in English, 'The Oriental Church and the Latin' was published in 1865. An account of his life and work was published in New York in 1879, the writer signing himself F. E. H. H.

KING, Leonard William, English writer on Semitic subjects and educationalist: b. London, 1869. Educated at Rugby and Cambridge, he became greatly interested in the earlier civilizations of western Asia; and in 1903–04 he was commissioned by the British Museum to carry on for it excavations at Nineveh;

which he did successfully, collecting many very interesting and valuable rock inscriptions dating back to a comparatively early period of Assyrian civilization and culture. Through this and other work of a like nature he was chosen lecturer in King's College, London, and assistant keeper of Egyptian and Assyrian antiquities in the British Museum. In connection with this position he prepared a guide of the treasures under his care (1900). Among his published works are 'Babylonian Magic and Sorcery' (1896); 'Cuneiform Texts in the British Museum' (1896–1914); 'Assyrian Chrestomathy' (1898); 'Letters and Inscriptions of Hammurabi' (1898–1900); 'Babylonian Religion and Mythology' (1899); 'Assyrian Language' (1901); 'Annals of the Kings of Assyria' (1902); 'Inscriptions of Darius on the rock of Behistûn' (1907, with R. C. Thompson); 'Egypt and Western Asia in the Light of Recent Discoveries' (1906, with H. R. Hall); 'A History of Sumer and Akkad' (1910); 'Boundary Stones and Memorial Tablets in the British Museum' (1912).

KING, Lida Shaw, American educator: b. Boston, 1868. Graduated from Vassar College, she continued post-graduate work at Brown, Vassar, Radcliffe, Bryn Mawr and the American School of Archæology, Athens, Greece (1894–1901). In the meantime she was professor of classics at Vassar (1894–97) and the Cacker Collegiate Institute (1898–1902). In 1905 she became assistant professor of classical philology at Brown University, and dean of the Woman's College, and in 1910 professor of classical literature and archæology.

KING, Philip Parker, English writer and naval officer: b. Norfolk Island, in the Pacific Ocean, 1793; d. 1856. Entering the naval service at the age of 14, he had been raised to the rank of lieutenant by the time he had attained his majority, and by the time he was 24 he was given complete charge of an important survey in Australian waters which covered five years and greatly improved the Torres Strait and Sydney route. Later on he spent four years in making surveys and charts of the southern coast of South America (1826–30). This expedition consisted of two vessels of which King was in charge of one, the *Adventure,* and Capt. Robert Fitzroy of the other, the *Beagle.* Some time afterward King went to Australia where he identified himself with the interests and progress of the country. He settled in Sydney, capital of New South Wales, where he became, among other things, a legislative councillor and manager of the Australian Agricultural Society. Later on he was raised to the rank of rear-admiral and placed on the retired list, an honor which was probably intended to be shown as much to Australia as to himself, for he was the first Australian to attain to his rank. Among his published works are 'Narrative of the Survey of the Intertropical and Western Coasts of Australia' (2 vols., 1827); 'Sailing Directions to the Coasts of Patagonia' (1830); 'Voyages of the *Adventure* and the *Beagle*' (3 vols., of which King wrote the second only, Robert Fitzroy writing one and Charles Darwin the other, 1839). He also made many very important charts which were long in use and upon which some of the charts of to-day are based. These charts were issued by the Admiralty Hydrographic Department in 1825, and at subsequent dates. Some of his later charts saw publicity through other sources.

KING, Preston, American statesman: b. Ogdensburg, N. Y., 1806; d. New York, 12 Nov. 1865. Graduating in law he practised his profession for some time in Saint Lawrence County, but constantly with an eye on politics and a hand in it. In 1830, prompted by his political inclinations, he founded the *Saint Lawrence Republican* as the organ of the Jackson party in northern New York. This paper he edited vigorously in the interest of party politics, and he received his reward at the hands of Jackson in the shape of the postmastership of Ogdensburg (1833). The following year he was elected a member of the New York legislature, and in 1842 a member of the United States Congress (1843–54). Throughout all this time he had been a member of the Democratic party though he held different views than those of the majority of his party on the slavery question. Finally he separated from the Democrats and joined the Republicans in 1854. He continued doing strenuous political work for the party of his adoption, and again he had his reward by being elected to the United States Senate (1857–63). As a delegate to the Republican Convention at Baltimore in 1864 he was largely instrumental in securing for Andrew Johnson the nomination for the Vice-Presidency of the United States. Later on King became collector of the port of New York. While holding this latter office he became deranged and finally committed suicide by jumping from a ferry-boat on the Hudson River.

KING, Rufus, American statesman: b. Scarboro, Me., 24 March 1755; d. Jamaica, L. I., 29 April 1827. He was graduated from Harvard in 1777 and admitted to the bar in 1778. In 1782 he entered the Massachusetts legislature, and Congress in 1784. He took an active part in the convention which framed the Federal Constitution, and removing to New York in 1788 became a senator from that State the next year, serving 1789–96. He was United States Minister to Great Britain (1796–1803), and after some years spent in partial retirement was sent for the third time to the Senate in 1813, and won renown as an orator by the brilliant speech he made on the burning of Washington by the British. In 1819 he was again elected to the Senate, serving till 1825, when he was appointed the second time Minister to the court of Saint James. He was the Federalist candidate for the Vice-Presidency in 1804 and 1808. In collaboration with Hamilton he wrote the 'Camillus Letters.'

KING, Rufus, American journalist and soldier: b. New York, 26 Jan. 1814; d. there, 13 Oct. 1876. He was graduated from West Point in 1833, entered the engineer corps, resigned from the army in 1836, became assistant engineer of the New York and Erie Railway, and was adjutant-general of New York State 1839–43. He was associate editor of the Albany *Evening Journal,* and in 1841–45 editor of the Albany *Advertiser.* Having then removed to Wisconsin, he was editor of the Milwaukee *Sentinel and Gazette* in 1845–61, and

in 1847–48 a member of the State Constitutional Convention. In May 1861 he was commissioned brigadier-general of Wisconsin volunteers. He commanded the first division of the Third Army corps in the Department of the Rappahannock in March-August 1862, was a member of the court-martial for the trial of Maj.-Gen. Fitz-John Porter (1862–63), resigned 20 Oct. 1863, and was Minister at Rome in 1863–67. In 1867–69 he was deputy customs collector of New York port.

KING, Samuel Archer, American aëronaut and scientist: b. Philadelphia, 1828; d. 1914. At the age of 21 he began making balloons in which he took a great interest. This led him to make ascensions himself two years later at Philadelphia. His interest in the matter created interest in others, so that balloon ascensions became features of expositions, traveling shows and other affairs in which many people were collected together. King himself sometimes made ascensions at such places, notably at the World's Columbian Exposition (Chicago 1893). Between this date and his ascensions at the Centennial Exposition in 1876 much had been done by himself and others of his followers to increase the general interest in the navigation of the air. King led the way in the scientific study of the means of air navigation and in the photographing of objects, especially towns and cities, from the air.

KING, Thomas Starr, American Unitarian clergyman and lecturer, generally known as Starr King: b. New York, 17 Dec. 1824; d. San Francisco, 4 March 1864. He was a clerk in a dry goods store at Charlestown, Mass., in 1836–40, a teacher at Boston and Medford in 1840–42, studied theology with Hosea Ballou at Medford, preached for a time to a Universalist congregation of Boston, and in 1846–48 was pastor of the Universalist Church at Charlestown. In 1848–60 he was pastor of the Hollis Street Unitarian Church of Boston, and during this period gained great popularity as a lyceum lecturer in the Northern States. Best known was his 'Substance and Show,' but other familiar subjects were 'Goethe,' 'Sight and Insight,' 'The Laws of Disorder,' 'Socrates.' He became pastor of the First Unitarian Society of San Francisco in 1860; was among the first, by newspaper article and lecture, to call attention to the Yosemite Valley, and when, in the Presidential campaign of 1860, the idea of the establishment of California as an independent Pacific republic was discussed, denounced the project from the lecture platform and preserved the State to the Union. During the Civil War he was active in obtaining in California large and necessary funds for the Sanitary Commission. His name was at one time associated with the White Mountains, which he thoroughly explored, and which became known chiefly through his writings, particularly 'The White Hills: Their Legends, Landscape and Poetry' (1859; new ed., 1887). One of the peaks of the White Mountains has been called Starr King in his honor. A memorial to him was set up in Golden Gate Park, San Francisco, Cal., in 1889. King was one of the leading figures of the American Lyceum in the most flourishing days of that institution. 'Patriotism and other Papers' appeared posthumously (1865), as did the sermon 'Christianity and Humanity' (1877), with a memoir by E. P. Whipple, and the collection of lectures, 'Substance and Show' (Boston 1877). Consult also Frothingham, 'A Tribute to Thomas Starr King' (1865), and Whipple, E. P., 'American Literature and Other Papers' (Boston 1887).

KING, William, English author: b. London, 1663; d. 1712. Graduating from Oxford in 1665 he spent five years in preparing for literary life. He soon proved himself a caustic critic who unerringly found the weak spots in human nature. Yet there was enough of humor in his work to lighten his caustic vein and to make it popular. His first dramatic effort, which was directed in favor of the Tory High Church Party, was entitled 'Dialogue Showing the Way to Modern Preferment.' He was, from this time on, in favor with the court and the recipient of successive political preferments, among them the judge of the Admiralty Court in Ireland, vicar-general of Armagh and keeper of the records of Dublin Castle. These offices all left him plenty of time for his literary labors which he did not employ to the best of advantage. Nor did he wisely use the time he did dedicate to literature. Thus his undoubtedly great talents were often misdirected or not directed at all. His indolence went even to the neglect of the preservation and publication of his manuscripts, some of which were lost and others of which were not published during the lifetime of the author. Among his published works are 'Journey to London in the Year 1698,' 'Animadversions,' 'Dialogues of the Dead,' 'The Art of Cookery,' 'The Art of Love,' 'Useful Transactions in Philosophy and Other Sorts of Learning,' 'Historical Account of the Heathen Gods and Heroes,' all sparkling with humor and originality. It was not until more than half a century after his death that his works were published as a whole, that is, such as were still preserved. This edition was due to John Nichols, who issued it in three volumes in 1776.

KING, William, American politician, first governor of the State of Maine: b. Scarboro, Me., 1768; d. Bath, Me., 17 June 1852. He was, during the greater part of his life, the last 50 years of which were passed in Bath, an active and successful merchant, but is better known by his public services in his native State. At an early period of his career he became a member of the Massachusetts legislature, and in that capacity was distinguished by his efforts in behalf of religious freedom, and of securing to original settlers upon wild lands the benefit of their improvements. He was an early and ardent advocate of the separation of Maine from Massachusetts, and upon the consummation of that act presided over the convention which met in 1819 to frame the constitution of the new State. He was subsequently elected the first governor of Maine, and, after holding office a little more than a year, became one of the United States commissioners for the adjustment of Spanish claims. He also held other offices of importance under the general and State governments, including that of collector of the port of Bath.

KING, William Frederick, Canadian astronomer and surveyor: b. Stowmarket, Suffolk,

England, 1854. He was brought, as a small child, by his parents to Canada, and received his education in Toronto University. On graduation, he entered the employ of the Dominion government as land surveyor in the great Northwest, becoming finally chief inspector of surveys in 1886. Four years later he became chief astronomer of the Department of the Interior, and in 1905 director of the Dominion Astronomical Observatory at Ottawa, and in 1909 superintendent of the Geodetic Survey of Canada. For this and other work for the encouragement of science he was knighted in 1908. Among his numerous writings is 'Astronomy in Canada.'

KING, William Lyon Mackenzie, Canadian statesman and economist: b. Berlin, Ontario, Canada, 1874. He was named after his grandfather, William Lyon Mackenzie. Educated at Toronto and Harvard universities, he entered journalism as a member of the editorial staff of the *Toronto Globe* (1895–96). In 1896 he went to Europe as a commissioner of the Dominion to report on the execution of contracts let by the government, a position he held for three years, when he became instructor in political economy in Harvard University and Deputy Minister of Labor in the Canadian Parliament (1900–08). Elected Liberal member of the Dominion Parliament in 1909, he became Minister of Labor in the Laurier Cabinet (1909–11). He was the author of the Canadian Industrial Disputes Investigation Act, and he served on important industrial and other commissions, and was government conciliator in strikes, all of which offices he performed with signal success. He was a Royal Commissioner appointed to settle the losses of the victims of the Japanese riots in Vancouver, British Columbia (1908); delegate to the International Opium Commission, Shanghai, China (1909); delegate to the International Social and Industrial Congress, The Hague (1910), and delegate to the International Peace Conference, Lake Mohonk, N. Y. (1911), and three years later he was commissioned by the Rockefeller Foundation to investigate the relations between labor and capital. The British government conferred upon him, in 1906, the decoration C.M.G. for services done in behalf of society and the betterment of the relations between labor and capital.

KING, William Rufus, American statesman, 13th Vice-President of the United States: b. Sampson County, N. C., 6 April 1786; d. in Dallas County, Ala., 17 April 1853. He entered the University of North Carolina at 12 and was graduated in 1803. He then commenced the study of law and was admitted to the bar in 1806. In 1806 he was elected to the legislature from his native county, and again in 1809. In 1810 he was elected to Congress and was twice re-elected. In Congress he united himself with Clay, Calhoun and others who advocated the war policy of Mr. Madison's administration, and voted for the declaration of war in June 1812. In the spring of 1816 he resigned his seat to become secretary of legation to Naples under William Pinckney. The latter was afterward transferred to Saint Petersburg, and was accompanied to that court also by King as secretary. Having removed to Alabama, he was elected in 1819 one of the United States senators from the new State, and was successively re-elected in 1823, 1828, 1834 and 1840. In April 1844 he was appointed Minister to France. The proposition for the annexation of Texas was then pending. England was known to be decidedly opposed to the scheme and there was a general belief that her government was urging France to join in a protest against it. King was an active advocate of the annexation, and upon reaching Paris directed his efforts to prevent this joint protest, in which he was successful. He returned to the United States in November 1846. In 1848 Senator Arthur P. Bagby was sent as Minister to Russia, and King was appointed to fill the vacancy thus created. In 1849 the term for which he was appointed having expired, he was elected for a full term of six years. In 1850, on the accession of Vice-President Fillmore to the Presidency, King was unanimously elected president of the Senate. In 1852 he was elected Vice-President of the United States, at the time Franklin Pierce was elected President.

KING, a person vested with supreme power in a foreign state, territory or nation. According to feudal usages the king was the source from which all command, honor and authority flowed, and he delegated to his followers the power by which they exercise subordinate rule or authority. There is now no very clearly marked distinction between a king and an emperor. A queen-regent, or a princess who has inherited the sovereign power in countries where female succession to the throne is recognized, possesses all the political rights of a king.

KING-AT-ARMS, an officer of great antiquity, whose business it is to direct the heralds, preside at their chapters and have the jurisdiction of armory. There are three kings-at-arms in England, Garter, Clarencieux and Norroy. The first is called the principal king-at-arms, the other two provincial kings-at-arms.

KING CHARLES SPANIEL. See Dog; Spaniel.

KING CONCH, the great wing-shells of the genus *Strombus,* especially *S. gigas* of the West Indies and *S. pugilis* of Florida. The large helmet-shells (*Cassis*) of the same region are often called "queen conchs."

KING COTTON, a popular name given the cotton plant in the United States. "Cotton is king" was a frequent declaration before the Civil War, when the supremacy of cotton in commerce and politics was strongly asserted by public men, especially in the South.

KING-CRAB. See Horsefoot Crab.

KING-CROW. See Drongo.

KING-DORY, a bird-dealers' name for the Australian parrots of the genus *Aspromictus.*

KING DUCK, the spectacled eider. See Eider Duck.

KING GEORGE V LAND, a name given recently to a part of the Antarctic Continent discovered by Sir Douglas Mawson in 1911 and explored by him in that and the following two years. It covers a very considerable extent of country, stretching as it does from

long. 144° E. to 153° E.; and the whole region is covered by a great cap of ice.

KING GEORGE'S SOUND, an inlet in western Australia, five miles broad; it is an excellent roadstead and contains two land-locked recesses, Princess Royal and Oyster harbors. Albany, on Princess Royal Harbor, is a port of call for mail steamers.

KING GEORGE'S WAR, a war of Great Britain and its American colonies, against France and its Indian allies (1743–48), so named from King George II. See COLONIAL WARS IN AMERICA.

KING HAAKON VII LAND, the name given by its explorer, Hansen, who spent the years 1903 and 1904 there. This territory, which forms the northeastern coast of Victoria Land, lies opposite Melville Sound.

KING HENRY THE FOURTH. This play in its first and second parts may be considered as one play, though as in all sequels, the second is lacking in the freshness and perfection of the first. The two plays were written at the time when Shakespeare was completing his series of historical dramas and comedies. By combining these two types in one play he achieves one of his greatest triumphs. At first sight the two types of drama might be thought incompatible, but by the connection of Prince Hal with Falstaff and his companions on the one hand and with the great historical characters and incidents on the other, the success is complete.

In the two plays Shakespeare's ability to reproduce for his age the outstanding figures of English history reaches its climax. They are not only a link in the chain of his other historical plays, but they throw a light over them. We have here all the pomp and circumstance of war — chivalry reaching its climax in the figures of Hotspur and Prince Hal. We have revolutions, wars, conspiracies and rebellions; in fact every incident is connected with some great and memorable movement. If Henry the Fourth is cold and restrained and his court conventional, he yet represents the unity of England, against which the fiery Hotspur and his comrades fight in vain. But the real hero of the plays — and one of the heroes of English people ever since they were written — is Prince Hal, who "passes from the gay and giddy youth of idle pleasure into wise counsel, magnanimous sentiment and heroic action." In these plays, as in 'Henry the Fifth,' he is Shakespeare's ideal man of action, with a hold upon the life of the nation and a personal magnetism that have endeared him to English hearts. Popular as were the historical portions of these plays, from the very beginning Falstaff was perhaps the chief point of interest. In the title pages to both plays the "humorous conceits of John Falstaff" were featured. The traditional story of Prince Hal in relation to the boisterous companions of his youth and the complete change in his life when he came into manhood was a challenge to Shakespeare's creative imagination. It is clear that the genius of Falstaff, his inexhaustible humor and imagination, is a sufficient reason for the fascination that he had for Prince Hal. The companions of Falstaff — real figures conveying the manners of their class, not only in the Middle Ages but in the Elizabethan Age — are necessary instruments in the plot, but they furnish no adequate explanation of the Prince's wild escapades. Falstaff is as supreme a comic character as Hamlet and King Lear in their rôles. He openly assumes the character of braggart, coward and glutton that he may enjoy the play of his imagination; he is an actor in himself. His physical properties are in perfect harmony with his intellect; his resourcefulness is inexhaustible. Whether disputing with the hostess about his bills or his promises of marriage, or explaining his running away from the robbers, or justifying his words against the Prince, or answering the condemnation of the Chief Justice, or characterizing his ragged regiment of soldiers, he has a range of ideas, a happiness of fancy and a genius of expression that are beyond all praise. "He is a comic Hamlet, stronger in practical resource and hardly less rich in thought, and without any of his melancholy." He is the exuberance of good humor and good nature; he nourishes his mind with jest as he does his body with sack and sugar. He is not only witty, but the cause of wittiness that is in others. His sayings have become proverbs, while his acts are almost beyond the power of any actor to reproduce.

The difficult problem in the relation of Prince Hal and Falstaff is the almost cruel speech that the former makes when he becomes king and banishes his old comrade. This is clearly anticipated, however, in the opening act of the first part when the Prince compares himself to the sun, and his companions to the "base, contagious clouds that smother up his beauty from the world." Without the words in which his father and Hotspur are so prolific, the Prince has inherent in him a substantial seriousness that must eventually cause him to escape from the irresponsibility of his youth. He is a judge of Falstaff's humor, even as the dramatist was himself. Falstaff endeavors "to coruscate away the realities of life; he believes that the facts and laws of the world may be bated or set at defiance, if only the resources of inexhaustible wit be called upon to supply by brilliant ingenuity whatever deficiencies may be found in character and conduct." Therefore Shakespeare condemned Falstaff inexorably, and so did Prince Hal when he faced the responsibilities of leading a great nation.

EDWIN MIMS.

KING HENRY THE FIFTH. 'King Henry V' is the last of the group of history plays to which were devoted so large a part of Shakespeare's energies during the first decade of his career. It brings to culmination the exposition of national issues which eight earlier adaptations of chronicle history had essayed with steadily increasing power. After 'Henry V,' Shakespeare entered this field only once again — when 'Henry VIII' was produced a dozen years later; but the nature of Shakespeare's concern in this last play is problematical and it should not be considered among the earlier group of histories. 'Henry V' is the final fanfare of Elizabethan patriotic exultation and marks the close of the dramatic epoch inaugurated in the time of the Armada by 'Tamburlaine' and 'The Spanish Tragedy.'

From this play Shakespeare himself passed to the treatment of more philosophic questions in the subsequent dramas of 'Julius Cæsar' and 'Hamlet,' and save for a few weak echoes the note of nationalism on the English stage died away.

'Henry V' was printed in 1600, and was clearly popular. A second quarto edition, of which only two copies seem now extant, appeared in 1602, and a third (falsely dated 1608) in 1619. Modern texts, however, are not based upon any of these, but upon the much more complete and accurate version of the folio of 1623. Composition of the play apparently preceded the publication of the first quarto by a very short interval, for the allusion by the Chorus at the opening of Act V to "the general of our gracious empress . . . from Ireland coming, Bringing rebellion broached on his sword" must from the context have been written during the absence of the Earl of Essex in Ireland (15 April–28 Sept. 1599). The fact that this passage and all the other speeches of the Chorus are wanting in the quarto versions is probably of no significance except to show the imperfectness of those versions.

It is likely that 'Henry V' was one of the very first plays acted at the Globe Theatre (constructed in the spring of 1599) and that the first speech of the play alludes specifically to the new playhouse:

> "Can this cockpit hold
> The vasty fields of France? Or may we cram
> Within this wooden O the very casques
> That did affright the air at Agincourt?"

While not one of the most permanent favorites, the play has been frequently revived. The most memorable performances in America were those of Richard Mansfield in 1900. By the reading public 'Henry V' has been generally beloved as one of the heartiest and sincerest of the poet's works. Recently, however, the king's character, as Shakespeare depicts it in this play and in the two parts of 'Henry IV,' has been subjected to unsympathetic scrutiny by three very distinguished critics: W. B. Yeats ('Ideas of Good and Evil,' 1903), Prof. A. C. Bradley ('The Rejection of Falstaff,' 1902, in 'Oxford Lectures on Poetry') and John Masefield ('William Shakespeare,' Home University Library, 1911). They all protest against the strain of callous selfishness in Henry, finding distinct discomfort in the idea that Shakespeare could have intended him as a hero. The limitations in the king, when compared with such characters as Hamlet and Brutus, are undeniable, and perhaps they explain in part why Shakespeare abandoned the patriotic history play for works of greater moral depth. Yet it certainly appears that in 'Henry V' the dramatist accepted in good faith the encomiums of Holinshed and permitted his satisfaction in the performances of the conquering hero to blind him to the lack of qualities with which he regularly endowed his great ideal figures. As in the case of most of Shakespeare's "errors," the matter is a question for academic speculation only; the ordinary reader or spectator is too much fired by the lambent brilliance of the piece to admit any qualification of his hero-worship. The subject has been judicially treated by Prof. J. W. Cunliffe ('The Character of Henry V as Prince and King' in the Columbia University 'Shakesperian Studies,' 1916).

TUCKER BROOKE.

KING HENRY THE SIXTH. The three parts of 'King Henry VI' offer some of the most complex problems in Elizabethan drama; and it is indeed rather as problems than as literature that they now attract most readers. Nearly all the dramatists conspicuous during the period from 1590 to 1595 — Shakespeare, Marlowe, Greene, Peele, Nashe, Lodge — have been conjecturally associated with their authorship, but the many resultant difficulties, like others connected with their respective dates of composition and precise relationship to one another, are in large part still unsettled.

The first part of 'King Henry VI' is extant only in a single form, that found in the Shakespeare Folio of 1623, but the second and third parts each appeared during the preceding 30 years in at least three different versions. Under the title of 'The First Part of the Contention betwixt the two famous Houses of York and Lancaster,' Thomas Millington published, in 1594, the earliest known text of '2 Henry VI,' a text containing only about half as many lines as that of the Folio. In the following year (1595), the same publisher brought out 'The True Tragedy of Richard Duke of York,' which bears an analogous relation to '3 Henry VI.' Both these early plays were reprinted in 1600 with only inessential changes, and again, with slightly greater alterations, in 1619. In the last edition they were for the first time combined under the title of 'The Whole Contention between the Two famous Houses, Lancaster and York,' and for the first time the phrase "Written by William Shakespeare, Gent.," was introduced. All editions previous to 1619 are anonymous.

Of the three plays as printed in the Folio, the first part contains fewest evidences of Shakespeare's work. Modern critics have been inclined to recognize his hand, with varying degrees of assurance, in the scene that depicts the plucking of roses in the Temple Garden (II, iv), in the next one (II, v) which introduces the dying Mortimer, in several, at least, of the series of short scenes dealing with Talbot's death (IV, ii–vii), and possibly in Suffolk's wooing of Margaret (V, iii).

More positiveness is allowable in regard to the second and third parts, where Shakespeare's hand seems perceptible in virtually all the extensive Folio additions to the text of the 'Whole Contention' of 1619. Study of this added material, carefully inlaid upon the original dramas, leads to valuable inferences regarding Shakespeare's early style and mode of composition. That Shakespeare had any hand in writing the 'First Part of the Contention' and 'True Tragedy' themselves is not likely, though the Jack Cade scenes of the former bear a general similarity to his work and particularly resemble a comic scene in the contemporary play of 'Sir Thomas More,' plausibly ascribed to Shakespeare. Hardly more convincing are the specific evidences hitherto adduced in support of Greene's or Peele's part authorship of the early plays. The trend of recent investigation is to justify the dictum of the judicial Hallam ('Introduction to the Literature of Eu-

rope,' ed. 1839, ii, 377): "The greater part of the plays in question ('First Part of the Contention' and 'True Tragedy') is in the judgment, I conceive, of all competent critics, far above the powers either of Greene or Peele, and exhibits a much greater share of the spirited versification, called by Jonson the 'mighty line' of Christopher Marlowe." In short, the lion's share in the two fundamental dramas seems to belong to Marlowe, while the amplification by which they were converted into '2' and '3 Henry VI' is largely, if not wholly, the work of Shakespeare. Further discussion of moot points alluded to above will be found in the following recent articles: Gray, H. D., 'Shakespeare's Contribution to 1 Henry VI' (Publications of the Modern Language Association of America, September 1917); Brooke, C. F. T., 'The Authorship of the Second and Third Parts of King Henry VI' (Yale University Press 1912).

TUCKER BROOKE.

KING HENRY VIII is certainly one of the latest plays with which Shakespeare was concerned. It was performed, apparently for the first time, at the Globe Theatre, 29 June 1613. A spectator on that occasion, Sir Henry Wotton, speaks of it as "a new play, called 'All is True,' representing some principal pieces of the reign of Henry the Eighth, which was set forth with many extraordinary circumstances of pomp and majesty, even to the matting of the stage; the Knights of the Order with their Georges and Garter, the guards with their embroidered coats." The elaborateness of the production proved disastrous, for the eyewitness continues: "Now King Henry, making a masque at the Cardinal Wolsey's house, and certain cannons being shot off at his entry (cf. I, iv, 49, s. d.), some of the paper or other stuff wherewith one of them was stopped, did light on the thatch, where being thought at first but an idle smoke . . . it consuming within less than an hour the whole kindled inwardly and ran round like a train, house to the very ground." Thus perished the Shakespearean Globe Theatre in the first modern theatrical conflagration. The building was reconstructed the next year, but in the meanwhile it is probable that Shakespeare's company continued the performance of 'Henry VIII' at their other theatre of Blackfriars, where, it has been pointed out, they would have been acting the scene of Queen Catherine's trial (II, iv) in the very building in which the actual trial had taken place 84 years previously. 'Henry VIII' was first published in the Folio of 1623. There it appears as the last in order of the history plays and in conformity to the others is entitled 'The Famous History of the Life of King Henry the Eight.' The Prologue, 11, 18–22, evidently alludes to the other title, 'All is True,' under which it is natural that the drama should have been originally advertised since at the time of its presentation in 1613 interest in the strict history play had been dead for a dozen years. In 1613 Shakespeare's active participation in the affairs of the King's Company had virtually or entirely ceased, and his post of chief poet for the company had fallen upon John Fletcher. It was Fletcher, undoubtedly, who wrote most of 'Henry VIII,' though Shakespeare's hand and the features of his latest style are clear in some of the earlier scenes (I, i, II, iii, iv) and occasionally elsewhere. In III, ii, the great scene of Wolsey's fall, Shakespeare appears to have written the first 200 lines and Fletcher the remainder. Here the continuator cannot be said to fall short of his pattern. It is Fletcher who contributes Wolsey's soliloquy, "Farewell! a long farewell, to all my greatness!" and his even more famous speech to Cromwell, of which the concluding lines, "Cromwell, I charge thee, fling away ambition," etc., form the best-known passage in the play. The brilliance of this part of the work, which rises above Fletcher's usual level, has even evoked the bold suggestion that Shakespeare was here paying his collaborator the compliment of showing what he could himself do in Fletcher's particular style. Other theories regarding the play which deserve mention, though controverted by the evidence in the case, are that Shakespeare originally wrote the play before the death of Queen Elizabeth in 1603 (consult Elze, K., *Jahrbuch* of the German Shakespeare Society, Vol. IX, 55–86) and that Fletcher's collaborator was not Shakespeare but Massinger (consult Boyle, R., 'Transactions of the New Shakespeare Society'). It is quite possible that Fletcher and Massinger were both employed in revising and completing the play when Shakespeare's retirement left it a fragment. The part of King Henry in the play is said to have been created by John Lowin (1576–1659), acting presumably to the Wolsey of Burbage. Sir William Davenant passed on his recollection of Lowin's interpretation to Betterton who performed the part after the Restoration. In 1727 an elaborate performance was given in connection with the coronation of George II. The most notable modern productions were those in which Sir Henry Irving (1892) and Sir Herbert Tree (1910) respectively took the part of Wolsey.

TUCKER BROOKE.

KING JOHN. 'The Life and Death of King John' is mentioned among Shakespeare's works by Francis Meres in 1598, but was not printed till the appearance of the Folio in 1623. In historic time it stands at the head of the history plays, and in date of composition it probably preceded all except 'Henry VI' and 'Richard III.' Critics assign it to 1593 or 1594. This play is an interesting mark of the transition from Shakespeare's earliest manner to his mature mode of composition. Like the second and third parts of 'Henry VI,' it is based upon an earlier drama in two parts. This latter work was printed in 1591 under the title of 'The Troublesome Reign of John, King of England.' Shakespeare's increasing independence is shown in 'King John' in that, though making few important changes in the story, he retains practically nothing of the original language. The plot, therefore, of the later play is essentially that of the unknown author of the 'Troublesome Reign,' while the language and in great degree the psychology are Shakespeare's own. The condensation of 10 acts of the original into five has been skillfully done, but evidences of cramping appears, especially toward the close, where the entire second part of the 'Troublesome Reign' is shortened into Act IV, sc. iii, and Act V of 'King John.' As might be assumed from the circumstances

of composition, the dramatic value of 'King John' lies less in structure or even characterization than in the emotional beauty of many speeches. Typical of Shakespeare's earliest period of real mastery are, for example, the famous sentimental scene between Hubert and Prince Arthur (IV, i); the expressions of Constance's mother-love, e.g., III, iv, 93ff:

"Grief fills the room up of my absent child,
Lies in his bed, walks up and down with me";

and the closing patriotic declamation of the Bastard Faulconbridge,

"This England never did, nor never shall
Lie at the proud foot of a conqueror," etc.

Of the first passage mentioned, Hazlitt writes ('Characters of Shakespeare's Plays,' 1817); "If anything ever was penned, heart-piercing, mixing the extremes of terror and pity, of that which shocks and that which soothes the mind, it is this scene."

There seems to be no record of any actual performance of 'King John' before 1737. Garrick acted the title rôle at Drury Lane in 1744, and in 1755 took the part of the Bastard with less success. On the whole, the play offers more opportunity for actresses than for actors, many heroines of the stage — among others, Mrs. Cibber, Mrs. Siddons and Ellen Terry — having won fame either as Constance or as Prince Arthur.

TUCKER BROOKE.

KING LEAR. The important editions of 'King Lear' are the first quarto (1607), the second quarto (1608) and the first folio (1623). The various readings of these texts constitute interesting problems of textual criticism. The record in the Stationers' Register, 26 Nov. 1607, indicates that the play was acted before the king at Christmas the preceding year. Certain internal evidence, such as the reference to the "late eclipses" (October 1605) and the Gunpowder Plot (5 Nov. 1605), would point to a probable earlier date. The verse, the dramatic technique and the high seriousness of the tragedy all indicate that Shakespeare wrote the play at a time when his genius had reached its highest point of development.

The story upon which the play is based had been current since Geoffrey of Monmouth's 'Historia Britannorum,' and Laymon's 'Brut.' Shakespeare was mainly dependent, however, upon Holinshed's 'Chronicles' (1577), Spenser's version of the second book of the 'Faerie Queene,' and an older play 'The True Chronicle History of King Leir and His Three Daughters' (1594). The story of Gloucester and his two sons was not a part of the original story, but had been set forth in Sidney's 'Arcadia.' No play illustrates better the dramatist's indebtedness to his sources, and at the same time the dramatic power with which he changed all the details into a dramatic unity.

"The little more and how much it is,
The little less and what worlds away!"

'King Lear' in its complexity of plot, its large number of characters, and its immense physical background, is the best possible illustration of the difference between the romantic drama and the classic. A detailed comparison with 'Orestes' suggests the difference between a complex and a simple play. The Greek dramatist is enabled by a few simple characters and the simplest of plots to produce a clear and definite impression. The very variety of 'King Lear' is bewildering: there is a combination in the play of the fable, the fairy story, the chronicle history and the tragedy of blood. And yet this varied wealth of character, passion, pathos and high philosophy, all subordinated to one harmonious whole, constitutes the glory of the play.

While many of the details of character and plot deserve consideration, it is well to emphasize the nature of the play as a tragedy. In no other play does Shakespeare represent or interpret so well the tragedy of the universe. All that is evil in man and woman comes to the surface. The animal world in all its ferocity, and nature, red in tooth and claw, are blended with the representation of man at his worst. The serpent, the wolf, the vulture, the wild boar — monsters of the deep that tear each other in their slime — are the counterparts of evil human creatures. Humanity preys upon itself, while the winds and the storms and sheets of fire turn upon human creatures "to complete the ruin they have wrought upon themselves." When the light begins to break toward the end of the play, the storm comes again as Cordelia is hanged and Lear comes upon the stage with his daughter in his arms, crying, "Never, never, never, never, never." In their importance Gloucester and Lear appeal to the higher powers — the stars, the heavens, the gods — but in vain. One thing alone is evident from the play — namely, that evil finally comes to definite defeat and that good, though mutilated and sacrificed, is its own reward. Tragic suffering is the privilege of great souls. But we remain confronted with "the inexplicable fact, or the no less inexplicable appearance, of a world travailing for protection, but bringing to birth, together with glorious good, an evil which it is able to overcome only by self-torture and self-waste. If this is, as Professor Bradley has suggested, the essence of tragedy as Shakespeare conceived it, surely 'King Lear' is the supreme expression of the dramatist's genius.

EDWIN MIMS.

KING LOG, a log that, in one of Æsop's fables, was given to the frogs to be their king or ruler. The character of the "king log" has become famous in literature. When the frogs found out what had been foisted upon them as a ruler by the god they petitioned him to remove this wooden king and to send them another in his place. This Jupiter did, replacing the log with a stork who at once began eating his subjects. Thus the frogs experienced the truth of the saying that a stupid ruler is better by far than a vicious and evil-disposed one.

KING OF THE MACKERELS, a strange oceanic fish of the genus *Ranzania,* allied to the ocean sunfish (*Mola*), various species of which are superstitiously so-called in various parts of the world. One kind (*R. truncata*) is now and then taken in the north Atlantic; and a Hawaiian and Japanese species is *R. makua.* Consult Goode and Bean, 'Oceanic Ichthyology' (1895).

KING-MONKEY, a monkey of the African semnopithecine genus *Colobus,* of which there are several species, one of which is the guereza (q.v.).

KING OF THE MULLETS. See CARDINAL-FISH.

KING-NUT, the shag-bark hickory.

KING PENGUIN. See PENGUIN.

KING PHILIP'S WAR. See COLONIAL WARS IN AMERICA.

KING RAIL. See RAIL.

KING RENÉ'S DAUGHTER (LA HIJA DEL RAY RENÉ). Henrik Hertz's lyrical drama, 'King René's Daughter,' was written in 1845. Besides 'Svend Dyrings Hus' it is the best known of all the dramas, about 40 in number, by this Danish author. The play met at once with great success and has been translated several times into German and English, also into Polish and Spanish. It is based on an event in the life of René, king of Provence in the 15th century, celebrated as a troubadour. His daughter, Yolande, married Tristan. In the play Yolande is blind, and the plot turns on her being awakened by Tristan and informed of her blindness, of which she has been brought up in ignorance, on the very day when such a proceeding was necessary to the recovery of her sight by the arts of a Moorish physician. 'King René's Daughter' is an exceedingly beautiful poem, as effective on the stage as psychologically interesting and charming by the grace and glow of the language. To those who can read the Danish original the fascination lies principally in the fine, chivalrous tone of the style, the lyric soaring of the expressions, the courteous and choice language. "It is a dainty piece of dessert for fastidious palates," as Brandes says in his critical analysis of the play. It is not to be criticized, but read or heard and enjoyed. Tschaikowsky, in the opera, 'Yolande' has used this poem for a libretto. There is an English translation by Theodore Martin.

GISLE BOTHNE.

KING RICHARD THE SECOND. 'King Richard II' seems to have been composed after Samuel Daniel's 'Civil Wars' (1595), a narrative poem from which the play takes several hints. In 1597 the latter was printed under the title of 'The Tragedy of King Richard the Second.' The appearance in all of three editions (one brought to light in 1916) before the close of 1598 testifies to the interest of the reading public, an interest explainable on three grounds: the growing fame of Shakespeare, who was just becoming widely known; the easy florid beauty of the poetry; and the distinct novelty with which a popular dramatic type is here embellished. The material is taken chiefly from Holinshed's 'Chronicle' and deals with only the last two years of Richard's life (1398–1400). This tragedy is distinguished from Shakespeare's other history plays by the strain of imaginative fantasy that everywhere pervades it. There is much rime and no prose at all: it is not like Shakespeare to make the gardener (III, iv) do his homely moralizing in Miltonic verse, or to find no place whatever for humor. A youthful leaning toward artificiality exposes itself also in the mock chivalry of the tournament scenes (I, i and iii, IV, i, 1–106), which read like dramatized versions of a Waverley novel. The poet's temporary obsession with sentimental, as opposed to strictly dramatic issues, appears again, and more effectively, in his characterization of the king. The real Richard II, though infirm of purpose, was not the charming æsthete here depicted: he was a man of wild and ruthless violence and remarkable physical courage, whose troubles were the retribution for a long period of the most treacherous misgovernment. His wild death scene, in which Shakespeare follows history, was quite in keeping with the real king's life, but involves a reversal of the poet's psychologic values. It cannot be reasonably doubted that in fashioning his material Shakespeare was under the influence of Marlowe's 'Edward II,' where the reign of a genuine sentimental weakling had been magnificently interpreted. However, in thus rendering a hardly legitimate homage to his model, the young poet was also yielding to a natural temptation, evidenced also in Biron of 'Love's Labour's Lost' and in Romeo, to dally with the charms of emotional fancy at the peril of losing touch with the truer purposes of life. Yet the essential justice meted out, almost unwillingly, to the prosaic, efficient Bolingbroke gives the play a firmness it would otherwise lack, and argues the fundamental soundness of the author's philosophy. Editions of 'Richard II' published before Queen Elizabeth's death in 1603 omitted the abdication scene (IV, i, 154–318) out of respect for the queen's objection to such themes. On 7 Feb. 1601, adherents of the Earl of Essex attempted to move public opinion in favor of their purposed insurrection by securing the performance of what was then an old play "of King Harry the Fourth and the killing of King Richard the Second." This was acted at the Globe, and also, it is said, "in open streets and houses." The play in question (which failed of its design to predispose the people toward the queen's deposition) can hardly have been any other than Shakespeare's 'Richard II.' Through the 17th century the tragedy's implied negation of the divine right of kings continued to render it unpalatable to the censors. Nahum Tate's effort to stage a modified version under the innocent title of 'The Sicilian Usurper' (1681) failed, as did also Theobald's adaptation in 1718. In recent times 'Richard II' has been elegantly produced by Sir Henry Irving, F. R. Benson, Sir Herbert Tree, and other actors; but its theme is not one which to-day vitally interests Anglo-Saxons, and it lacks the complexity of story and broad range of mood which audiences look for in Shakespeare.

TUCKER BROOKE.

KING RICHARD THE THIRD. 'Richard III' is probably Shakespeare's first unaided effort at dramatizing history. It may have been written as early as 1593, but specific evidence of date is lacking. It was first printed (like 'Richard II' and 'Romeo and Juliet') in 1597; by 1634 eight editions had been called for. The features of this tragedy are most conspicuous when it is compared with 'Richard II,' which in date of composition cannot long have followed it. 'Richard II' is marked by reflective grace, 'Richard III' by force. Neither yet shows much variety of interest or any humorous power. It happens that each play belongs to a tetralogy. 'Richard III' points back to

the three parts of 'Henry VI,' concludes and interprets them; 'Richard II' points forward to the two parts of 'Henry IV' and to 'Henry V,' stating the problem of kingly responsibility out of which those plays grow. Like 'Richard II,' 'Richard III' owes much to Marlowe's influence, but while the later play emulates the cool judiciousness of Marlowe's mature 'Edward II,' the earlier lies still under the spell of the splendid violence of 'Tamburlaine.' The material of the play under discussion comes for the most part from Holinshed's chronicle, but the influence of three earlier dramas on the same subject is probably traceable: (1) Dr. Thomas Legge's Latin play, 'Richardus Tertius' (acted at Cambridge 1580), (2) 'The True Tragedy of Richard III' (published 1594), (3) 'The True Tragedy of Richard Duke of York' (published 1595). The last work, which Shakespeare rewrote as the Third Part of 'Henry VI,' evidently suggested 'Richard III' as its natural sequel. Through (1) and (2) doubtless came, at least in part, the marked reminiscence of Senecan melodrama. This shows itself in 'Richard III' in the special emphasis laid upon soliloquy, the power of the curse (cf. Queen Margaret in I, iii and IV, iv), and ill omen. Like Seneca, Shakespeare here makes much of evil dreams. Three of the most notable passages centre about nightmares: Clarence's in I, iv, Stanley's in III, ii, and Richard's in V, iii. More than 'Hamlet,' 'Richard III' is a one-man drama. The entire play unrolls around the single figure of the villain-hero, and — by means of devices which Shakespeare was to employ more subtly in later works — Richard is made far more significant and interesting than he is in '3 Henry VI.' His hypocritical, sardonic assumption of guilelessness, the attractive power which he owes solely to his blazing intellectual fire, the frankness with which he confesses his villainy to himself, and the casuistical wit with which he seeks to explain it, are all traits hardly to be found in the Gloucester of 'Henry VI,' and all mark him as the first real precursor of Iago. This play is crude and immature; some critics, among them Lowell, have wished to deny that Shakespeare wrote it. It lacks moderation and true wisdom and even life-likeness; but it has power beyond measure, it bears the indubitable stamp of genius and the promise of higher things. Very few of Shakespeare's plays enjoyed a wider popular success. In the Elizabethan Age it passed through as many editions as the first part of 'Henry IV,' more than any other Shakespearean play. Richard was one of Burbage's greatest rôles, and two centuries later became one of the greatest of Edmund Kean's. There have been various adaptations, one of which by Cibber still holds the stage in performances of Mr. Mantell.

TUCKER BROOKE.

KING OF OCKHAM, Peter, FIRST BARON, English statesman and writer: b. Exeter, 1669; d. 1734. Graduated in law in 1698, he became a member of Parliament three years later for Beeralston, Devonshire, as a member of the Whig party. His advancement was rapid because of his active and aggressive character and he was knighted in 1708, was created chief justice of Common Pleas in 1714 and a member of the Privy Council in 1715. For the following 10 years he continued very active in politics, becoming in that year, in succession, speaker of the House of Lords, Baron and Lord Chancellor, a position he held until 1733 when paralysis forced his resignation. Among his published works are 'An Inquiry into the Constitution, Discipline and Unity and Worship of the Primitive Church' (1691); 'A History of the Apostles' Creed' (1702). Consult Campbell, 'Lives of the Lord Chancellors' (London 1858); Welsby, 'Lives of Eminent English Judges' (London 1846).

KING OF OCKHAM, Peter, SEVENTH BARON, English writer and economist. Educated at Eton and Cambridge, he succeeded to the family title in 1793, entering the House of Lords three years later. Like the first baron of the same name (q.v.), he was a Whig, though not of such a determined and uncompromising type. He took a great interest in the finances of the country and especially in the currency, to the study of which he gave much of his time. He was also in favor of the removal of the restrictions then still placed upon Roman Catholics and deeply interested in the welfare of Ireland which he clearly saw was not being either fairly or wisely handled by the British government. His liberality of thought is also shown in his opposition to the Corn Laws. Among his published works are 'Catholic Emancipation'; 'On the Conduct of the British Government toward the Catholics of Ireland'; 'A Short History of the Job of Job's'; 'Life of John Locke' (2 vols.).

KING SALMON, or QUINNAT, the most important of the several species of salmon found on the Pacific Coast of the United States; called also Chinook or Columbia River salmon (*Oncorhynchus tschawytscha*). It is especially abundant in the Columbia and Sacramento rivers, and its great economic importance is due to the fact that it enters the rivers in large numbers in the spring. See SALMON OF THE PACIFIC.

KING SNAKE, a large colubrine snake of the southern part of the United States (*Osceola doliata*, of which the northern house-snake is a variety), so called on account of the belief in its power and prowess, especially in overcoming rattlesnakes. It is grayish white, marked by a series of black rings in a manner so viariable that many color-varieties have been named. It sometimes reaches a length of 10 feet, is extremely muscular and swift, and preys upon frogs, toads and upon snakes, including poisonous ones. Hence this serpent is much respected and rarely killed in the less settled parts of the Southern States. Several other species are known, one of which (*O. coccinea*) is red with black bands, and called the red king snake. These snakes are reproduced by eggs buried in sandy soil or loose dust, like that of a rotting stump. The chain-snakes (q.v.) of the allied genus *Ophiobolus*, have an equal right to the name "king snake," and frequently receive it. Consult Holbrook, 'North American Herpetology' (Vol. III, Philadelphia 1842); Ditmars, 'Reptile Book' (New York 1907).

KING VULTUR. See CONDOR.

KING WILLIAM'S WAR, a war waged by Great Britain and its colonies in America against France and its Indian allies in 1689–1697. See COLONIAL WARS IN AMERICA.

KINGBIRD, one of the most familiar representatives in the United States of the tyrant fly-catchers (*Tyrannidæ*). The typical genus is distinguished by the concealed flame-colored crest, attenuate outer primaries and square tail and contains many species. The eastern kingbird (*Tyrannus carolinensis*) is found throughout the United States, but rarely in the Southwest or west of the Rocky Mountains; it also enters the British provinces and breeds throughout this range; in winter it migrates into Mexico, Central and South America. It is a plain little bird about eight inches long, nearly black above and quite so on the head, this color there contrasting greatly with the brilliant flame color of the crest, which can be concealed or erected at will; the tail is tipped with white and the under parts are wholly white. The young lack the highly colored crown. The most distinctive trait of the kingbird is pugnacity, and during the nesting season no bird may come near its home without being attacked and almost invariably routed. Even crows, hawks and eagles fly before its fearless and vigorous onslaughts. On account of the large gape of the mouth, the spreading bristles at its sides, and the flat, broad bill, the kingbird, in common with related species, is an adept in capturing flying insects, which constitute its almost exclusive food. In some localities it is known as the bee-martin, and has gained a bad reputation as a destroyer of honey-bees, but it destroys a thousand noxious insects for every bee it eats. The nest is a crude, bulky structure saddled in a conspicuous position on a limb or fork usually of an apple-tree, and the eggs are usually rosy white, boldly spotted with brown and lilac. Two additional species of kingbirds are found in the West and two in the South. Consult Wilson, 'American Ornithology' (1834); Baird, Brewer and Ridgway, 'History of North American Birds' (1874); Coues, 'Birds of the Northwest' (1874).

KINGDOM OF GOD. The idea of the Kingdom of God is prominent in the Old Testament, but especially so in the New Testament, finding its centre in the teachings of Jesus. The Kingdom of God is a goal set before the race; not a Utopian dream, but a realization through character development. It is also a philosophy of history. The phrase Kingdom of God or Kingdom of Heaven is not found in the Old Testament, but the idea was early developed (Judges xvii, 6, xviii, 1, xxi, 25) and all the prophets foretold it. Back of their belief in a coming Kingdom of God was faith in God himself and their earliest political unity was theocentric. Their faith was built on a future in which there was to be a more perfect kingdom. The idea of a Messianic reign is carried from the prophets into Apocryphal literature where it is sometimes strongly stated. Archibald Robertson well sums up the Jewish faith in the Kingdom of God as Christ found it: "These beliefs and hopes took shape, no doubt, to many minds as crude and political aspirations. But among the stricter Pharisees — or at least the more spiritually minded of them, they comprised the following elements:

1. Israel was ideally the Kingdom of God, and destined to become what it already was in idea.
2. Israel as it was was not the Kingdom of God, for it contained unworthy elements. The existing faithful Jews are the *nucleus* of the future kingdom.
3. The future kingdom was to be on earth, with Jerusalem with its seat and centre. It was variously conceived as (a) eternal or (b) of limited duration.
4. It was to include the faithful who are dead, and will be raised again.
5. It was to be inaugurated by a Day of Judgment, which appears to be identified with the day of the Messiah's appearance.
6. It was to be an embodiment of all elements of national well-being — social, ethical, spiritual.
7. It was to embrace all peoples, who would come to worship at Jerusalem."

From the beginning Jesus connected his own person with the Messianic Kingdom and distinctly taught that it was to be a spiritual kingdom, culminating in the heavenly kingdom. The members of the kingdom were to be, first of all, his immediate followers, and then their successors in the years to come. The fully developed kingdom cannot be recognized here, only in heaven. In the Book of Revelation began the idea of the millennial reign of Christ on earth before His final reign in heaven. The Gnostics and Montanists held their own views of the Kingdom of God — a puritanical rigor of morals was fundamental. The millennial idea continued until it was superseded under Constantine with the idea of a Christian empire. Monasticism next arose as a possible method for the seeker after the Kingdom of God.

Augustine developed the idea that the Church is the Kingdom of God on earth. This was in two parts — the visible and invisible. The mediæval theologians built on that conception the idea of an omnipotent Church with its complete centralization of power, culminating finally in the work of Gregory VII and Innocent III.

Dante combated this idea in his 'De Monarchia' in which he argues for the divine sanction for the secular life apart from the spiritual, and demands that the Pope be only the spiritual head of the spiritual Church. And again, as in the early Church, monastic poverty was sought as a means for entrance into the kingdom and so the Orders of Friars flourished. William of Ockham and Marsilius continued to develop the idea of Dante. John Wyclif was the first to oppose the mediæval idea theologically. Then came the Reformation following the intellectual awakening of Europe, in which many voices protested against an omnipotent Church. As a universal idea it was a failure. The Reformation, however, did not put an ideal in its place. The Counter-Reformation and the Renaissance were Catholic attempts to reconstruct the idea. The present-day tendency in Protestant circles is to reinterpret the biblical sources of the doctrine. It is a part of the growth of the new science of biblical theology. The present idea is that "the Church is the Kingdom of God in the making" as far as she represents the ideals of the sources of the doctrine. The bibliography of the subject is very extensive. Consult Robertson, Archibald, 'Regnum Dei — Eight Lectures on the Kingdom of God in the History of Christian Thought' (1901).

KINGFISH, the name of various fishes of notable power or superior excellence, especially certain "Spanish mackerels" of the genus *Scomberomorus.* One, the cavalla or "King cero," is a favorite game fish in Florida (see CERO). The kingfish of New York waters (*Menticirrhus saxatilis*) is one of the whitings, of the family *Sciænidæ,* closely allied to the drums (see WHITING). It is a moderately large migratory marine fish, "dusky gray above, sometimes blackish, the back and sides with distinct dark oblique cross-bands running down and forward," and a V-shaped blotch on each side of the nape. It is also known as "seamink," and is an excellent food-fish, but has become rare, although formerly ascending the Hudson River in schools, in early spring, for 40 miles or so. Other fishes so called are the little roncador (q.v.) of California, and the opah (q.v.). Consult Jordan and Evermann, 'American Food and Game Fishes' (New York 1902).

KINGFISHER, city, county-seat and county of the same name in Oklahoma, some 30 miles west of Guthrie. The town is situated on the Chicago, Rock Island and Pacific Railroad, and its shipping facilities and central position made it a centre of distribution for imports and for the products of the surrounding country which are mainly agricultural, devoting considerable attention to stock-raising. Pop. 3,000.

KINGFISHER, a bird of the family *Alcedinidæ,* characterized by the short, compact body and large head, with a large, straight, acute bill; the somewhat usually short, square tail of 12 rectrices, the short rounded wings having 10 primary quills; the short, weak legs and nearly unique cohesion of the middle and outer toes. Two sub-families are commonly recognized, the *Daceloninæ,* or "Kinghunters," with a broader, depressed, sometimes curved bill and usually insectivorous habits; and the *Alcedinidæ,* or true kingfishers, with a compressed, carinated bill, and usually piscivorous. About 20 genera and 125 species have been described, half of which are confined to the Australian region. About five genera and 50 species are distributed between tropical Africa and Asia, one species alone, the brilliantly colored *Alcedo ispida,* is found in Europe; while all of America has only eight species of *Ceryle,* three of which extend their range into the United States. Of these three, two (*Ceryle torquata* and *C. americana*) are really Mexican and Central American, but the third, the belted kingfisher (*C. Alcyon*), is a widely distributed and highly characteristic member of the North American avifauna. Throughout North America, from the shores of the Arctic Ocean to the Gulf of Mexico, and from the Atlantic to the Pacific, is the summer breeding-home of the belted kingfisher, which in winter retreats south of the limit of freezing. The large, crested head, very large bill and deep blue color, with black and white markings and largely white under parts, give to this bird a very characteristic aspect, which is heightened by its peculiar habits. Each pair selects a hunting-ground somewhere in the vicinity of water, and other pairs seldom intrude upon this preserve. There the kingfisher perches on a tree overhanging the water and watches for the passage of a fish, when it plunges headlong and usually emerges with a small fish held firmly in the beak. As it rises a spasmodic shake dispels the water from its compact oily plumage, and on returning to its perch, the fish is usually tossed into the air and swallowed head first. Sometimes the kingfisher hunts more in the manner of a tern and plunges from a suspended position in mid-air. The only call is a peculiarly loud, harsh, rattling cry. A burrow six to nine feet long, dug horizontally into a bank, serves as a nesting place, in the slightly enlarged end of which the six or eight pure white eggs are laid on a bed of regurgitated fish bones.

The dacelonine kingfishers have very different habits, and might more properly be called kinghunters. They are usually woodland birds, caring little for the neighborhood of water, since their food consists of insects caught mainly on the wing, or else of tree-frogs, lizards and other small reptiles found on the ground or about trees. The jackass kingfisher (q.v.) of Australia is a prominent example. A peculiar group of the Papuan Islands (genus *Tanysiptera*) has long, racket-shaped tail-feathers and other peculiarities of plumage. The small East Indian species have only three toes. Those of Africa are inhabitants of deep woods, but when hard pressed for food will resort to streams and pick up small fishes. All these breed in holes in trees and not in earth-burrows.

Consult Coues, E., 'Key to North American Birds' (Boston 1903); Evans, 'Birds' (Cambridge Natural History, Vol. IX); Sharpe, 'Monograph of the Alcedinidæ'; and American and European ornithologies.

KINGHUNTER, a kingfisher of the subfamily *Daceloninæ;* specifically the jackass kingfisher (q.v.).

KINGLAKE, Alexander William, English historian: b. Taunton, Somerset, 5 Aug. 1809; d. 2 Jan. 1891. He was educated at Eton and Cambridge, was called to the bar in 1837, but ceased to practice in 1856. He represented Bridgewater as a Liberal in Parliament from 1857 to 1868, when Bridgewater was disfranchised for bribery. His distinction as a writer rests upon two books: 'Eothen, or Traces of Travel Brought Home From the East' (1844); and 'The Invasion of the Crimea,' in eight volumes (1863–87). The former is marked by truth to nature, poetry, humor and imagination; the latter (which is partly the result of personal observation) is an equally brilliant performance in its own way, almost exhaustive in its details, picturesque and telling in description and narrative, but open to the charge of prejudice in some points, his great dislike of Napoleon III frequently appearing. (See EOTHEN). Consult Tuckwell, 'Alexander William Kinglake' (1901); 'Dictionary of National Biography' (London).

KINGLET, a very small bird of the thrush family dwelling in northern forests and visiting southern Europe and the United States only in winter. These smallest of songsters, hardly more than four inches in total length, are olive-green and gray in color, with a half-concealed yellow crest in one of the two species, the gold-crest (*Regulus satrapa*), and a flame-colored one in the other (*R. calendula*), called ruby-

crown. These tiny birds go about in small lively flocks and have no hesitation in attacking a crow, jay or hawk with the spiteful fury that long ago won them the name "kinglet" among European peasants. Both, especially the ruby-crown, sing sweetly in the spring before going to some mountain-top or northern forest to make their cup-like nests in some evergreen tree. See GOLD-CREST.

KINGMAN, Kansas, city, county-seat of Kingman County, situated on the Atchison, Topeka and Santa Fe and the Missouri Pacific railroads, some 45 miles west of Wichita, in the midst of a rich agricultural and cattle district. It has butter and salt factories, flour mills and grain elevators and is well supplied with water motive power. Pop. 3,200.

KINGS, Books of. These two books in the Hebrew Bible formed originally one work. In the Greek version (the Septuagint), Kings and Samuel were reckoned as four Books of Kingdoms. This fourfold division passed into the Christian Bibles through the Vulgate, and was adopted in the printed editions of the Hebrew. Jerome, however, preferred the title Kings, hence our present name for the second twofold work.

Like Judges, Kings is a product of the era of historical interpretation inaugurated by the publication of Deuteronomy in 621 B.C. (See DEUTERONOMY and JUDGES). The reign of Solomon and the history of the divided kingdom furnished more abundant and varied illustration of the central principles of the prophetic law book than even the age of the Judges. The dependence of national prosperity upon absolute loyalty to Jehovah was illustrated more impressively by the division and downfall of the kingdom than by the vicissitudes of the early struggles, while the second great principle, the sinfulness of worship in the high places and the duty of centralization in the Jerusalem Temple, was exemplified constantly in the history from Solomon to the exile. For the period included in Kings, the writers of the exile did not have, as they did for the time of the Judges, a completed history already at hand, which they needed only to edit. For this era, they must themselves compile the earlier documents. Kings is therefore the great, original contribution of the Deuteronomic school of historians. Some passages, implying that the Temple is still standing and the Davidic dynasty uninterrupted, suggest that the compilation was undertaken in pre-exilic days, but the work as a whole carries the history in detail to the events following the destruction of Jerusalem in 586 B.C., and cannot have been finished before the exile.

The completed work falls into three great sections: (1) The reign of Solomon (1 Kings i–xi); (2) The divided kingdom (1 Kings xii–2 Kings xvii); (3) Judah after the fall of Israel (2 Kings xviii–xxv). At the close of the first and second sections, the compilers introduce at length their own interpretation of the preceding events in characteristic Deuteronomic terms. At the opening and close of each reign they give their judgments on the successive kings in stereotyped formulas. These formulas include also the chronological data in accordance with which they arrange the synchronisms of the reigns. For their sources the compilers had on hand a book of the Acts of Solomon and separate Chronicles (Hebrew, Acts of Days) of Isreal and Judah. They also had collections of stories concerning Elijah, Elisha and other prophets. Reference is made by title to the Acts of Solomon and the Chronicles of Israel and Judah for additional information not included in Kings. Whether these books were the original state documents we cannot be sure. From the time of David a Recorder (Hebrew, Remembrancer) seems to have been a regular officer of the court. Directly or indirectly his records may be supposed to underlie the sources on which the compilers rely for information concerning the public activities of the kings, but it is commonly felt that the Chronicles to which they refer were not the original court records. They seem, rather, to have been compositions based on these and including also materials that would find no place in official annals. The narratives concerning Elijah, who appears so prominently in the fateful reign of Ahab of Israel, were doubtless composed in prophetic circles not long after his death. The sudden way in which the prophet is introduced (1 Kings xvii, 1) implies that the stories are taken out of a larger work in which fuller information is given concerning him. Some of the other stories in which prophets appear show more traces of the accretions which indicate oral transmission; those may have been handed down by word of mouth for some time before they were committed to writing. As a whole the books of Kings give the national history for a period of 400 years from the death of David to the exile, in a form that commends itself as affording one of the most reliable histories composed in pre-Christian times. Taken in connection with the books of Judges and Samuel, they give a comprehensive survey of Hebrew history, covering a period of nearly 600 years, from the struggles of the tribes for the possession of the land, through the federation into the monarchy, the division into two kingdoms, their inter-related history, and the separate history of Judah after the fall of Israel until her own downfall. In this series of books, Samuel was already in a form which so satisfied the exilic historians that they made very slight editorial additions, but Judges received much editing from their hands, and Kings, as has been indicated, is their own compilation. When their work was accomplished, a century before the time of Herodotus, their nation had a history of remarkable completeness and reliability, as compared with other ancient peoples.

In literary form, the books of Kings offer an interesting study. The 11 chapters concerning Solomon's reign centre in the description of the building and dedication of the Temple. To this central part are prefixed the account of the king's accession and notices of his wisdom, power, and wealth, and there are appended further notices of his wisdom and splendor and of his apostasy and adversaries. The histories of the divided kingdom are most skilfully interwoven so that the contemporary events are kept in close connection and yet the distinction between the two kingdoms is made clear. From the downfall of Israel in 722 B.C., the compilers' task was comparatively simple as they dealt with the records of Judah alone.

The brief epitomes of many of the reigns afford little scope for literary art, but the fuller narratives concerning Elijah and Ahab are among the best told and most inspiring stories of antiquity. Other narratives which show the vigor of Israel's early prose concern the wars with Damascus (1 Kings xx, xxii). The sections in which the compilers pass their judgment upon Solomon or Israel are marked by the solemn earnestness and rhythmic speech so characteristic of Deuteronomy and of the writers influenced by its noble style and profound convictions. Even the monotonous formula, condemning all the kings of Israel for walking in the way of Jeroboam and in his sin wherewith he made Israel to sin, gives something of the impressiveness of the tolling of a deep toned bell, that adds its own element to the effect of the whole work.

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HENRY THATCHER FOWLER,
Professor of Biblical Literature and History, Brown University.

KING'S BENCH, Court of. See COURT.

KING'S CHAPEL, a religious edifice in Tremont street, Boston, Mass., built in 1745 on the site of an older church. During the War of the Revolution it was for a time forsaken by its Loyalist congregation. In the burial ground adjoining which has been in use since 1630, many of the early Puritans, including Governor Winthrop, are interred.

KING'S COLLEGE, a college of Cambridge University, England, founded by Henry VI in 1441, as the College of Saint Nicholas for a provost and 70 scholars, with Eton College as a preparatory school. Exemption from the jurisdiction of the archbishop of Canterbury, the bishop of Ely, and even of the university in matters scholastic, were some of its unusual privileges, and until 1857 members of King's College could take a degree without passing the university examinations, a course which did not conduce to a high standard of scholarship. In its roll of celebrated alumni are Archbishop Sumner, Bishop Pearson, Richard Croke, the Greek scholar, the first Sir William Temple, Sir Robert Walpole and Lord Stratford de Redcliffe. The college had in 1915–16 a provost, 46 fellows, 48 scholars, 156 undergraduates. The college chapel is the finest in the world in size, form and decoration. It contains some of the best stained glass and wood carving examples in England.

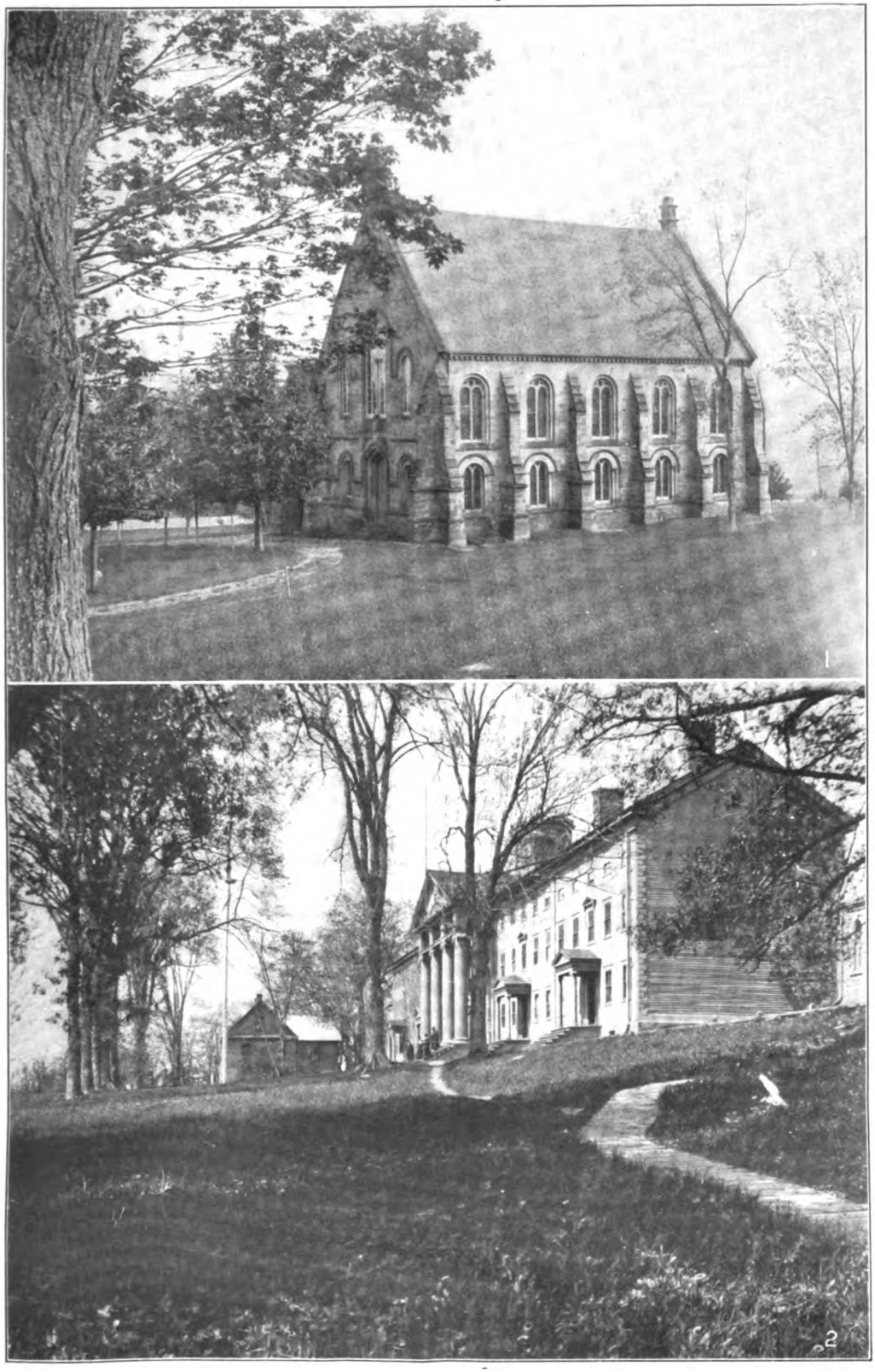
KING'S COLLEGE, London, a college established by private subscription and incorporated in 1829, its constitution being amended by an act of Parliament in 1882. It was established for the purpose of providing an education in accordance with the principles of the Established Church. Education is imparted in the departments of theology, general literature and science, applied sciences and engineering, laws and medicine. The department of general literature and science is intended to prepare students for the universities, for the army and the Indian and home civil service; and there are also special classes for civil service candidates. There is a department for women. The college possesses a library and a museum, the latter containing Babbage's calculating machine and King George the Third's collection of philosophical instruments and mechanical models. It is now a constituent college of London University. Among its celebrated scholars are Prof. Thorold Rogers and Cayley, Sir James Fitzjames Stephen, Dean Farrer, Dante Gabriel Rossetti and his brother William.

KING'S COLLEGE, Windsor, is the oldest university in what is now the Dominion of Canada, and, with the exception of the French foundation of Laval (q.v.) at Quebec, is the oldest college. It has the distinction of being the oldest university in the British dominions overseas. Its establishment was the work of British Loyalists, chiefly from the State of New York, after the close of the War of the Revolution. Of these about 18,000 settled in the Nova Scotia Peninsula. As early as 8 March 1783 a meeting of Loyalists was held in New York, and "A Plan of Religious and Literary Instruction for the Province of Nova Scotia" was drawn up and forwarded to the colonial secretary; and when Dr. Charles Inglis, who had formerly been rector of Trinity Church, New York, was consecrated first bishop of Nova Scotia in 1787, one of his first cares was to carry the scheme into effect. First, a grant was obtained from the provincial legislature for an academy at Windsor. This academy (now known as the Collegiate School) was opened 1 Nov. 1788, and the following year an act was passed for "the permanent establishment and effectual support of a college at Windsor," and the sum of £400 sterling per annum granted toward its maintenance. Under this act King's College was opened in 1790 in temporary quarters, and the erection of a building of wood was begun the following year.

The first president of the college was Rev. William Cochran, a graduate of Trinity College, Dublin, who had been professor of Greek and Latin in King's (now Columbia) College, New York, but who, on account of his Loyalist sympathies, resigned and came to Nova Scotia in 1788.

A royal charter, giving to King's College full university powers, was granted by George III in 1802, and was accompanied by an imperial grant of £1,000 a year, which was continued until 1834. The board of governors under this charter was a political body, consisting of the lieutenant-governor, the bishop and six members of the government. The task of framing statutes for the college was entrusted to a committee of three, two of whom were uncompromising Tories, and by their rigid adherence to the Oxford model in the matter of religious tests inflicted a lasting injury upon the college and almost effected its ruin. The requirement

KING'S COLLEGE, WINDSOR, N. S.



1 Convocation Hall

2 King's College

was made that all students, on matriculation, must subscribe to the Thirty-nine Articles. To this the bishop strenuously objected, and sent his protest to the archbishop of Canterbury, who was, under the charter, patron of the college. The archbishop compromised by withdrawing the test at matriculation, but requiring it of all those who were admitted to degrees. Instead of at once publishing this amendment, the governors kept the matter quiet, and Lord Dalhousie, who became governor of the province in 1816, seems not to have heard of it until after he had arranged for the establishment of another institution (Dalhousie College) (q.v.) in Halifax.

Although the religious tests were finally removed in 1829, in spite of repeated attempts to secularize it and amalgamate it with Dalhousie College, Halifax, King's College still retained its connection with the Church of England, and indeed the requirement that the president should be a clergyman was only abolished in 1902. Of the three King's Colleges established at Windsor, N. S., Fredericton, N. B., and Toronto, it is the only one which has maintained its original status, the others having relinquished their charters and become secularized.

In 1846 a meeting of alumni of the college was held, and it was determined to form an association for furthering the interests of the college. Accordingly a provincial act incorporating "The Alumni of King's College, Windsor," was obtained in 1847, and six years later another act abolished the old political board of governors and constituted a new board, the members of which were, for the most part, to be elected by the alumni. The provincial grant of £400 was discontinued in 1849, and for some years the smaller grant of $1,000 a year was continued, but this ceased in 1881, and since that time the college has been thrown upon its own resources. The progress of the college was rapid under the new régime. The number of students increased. A beautiful stone convocation hall and library was erected in 1861 and a chapel in 1877.

The library of the college, which owes its inception to John Inglis, who went to England in 1802 to collect books, contains some of the most valuable bibliographical treasures in Canada. There are no less than 18 volumes from the famous Aldine Press, including the Aristotle of 1495–98. Then there are 20 volumes from the Elzevir Press and 16 from that of Stephens of Paris. One of the treasures is a copy of the Coberger Bible of 1475, of which there is perhaps not another copy in America. Among the valuable books of a later date may be mentioned the Boydell edition of Shakespeare and Milton, and a presentation copy of the Marquis of Buckingham's 'Homer.'

The present teaching staff of the college consists of a president and professors of divinity (2), classics, philosophy and ethics, science, English literature, mathematics, physics and engineering. Degrees are given in arts, divinity, engineering and science, and a school of law, established at Saint John, N. B., in connection with the University of King's College, in 1892, is doing good work. The Engineering School, which is the oldest in Nova Scotia, was removed in 1904 to the Sydneys to take advantage of the splendid plant in operation in the Cape Breton metropolis. In 1915–16 there were 57 students in attendance, and at the Law School 27 students. The university is affiliated with Oxford, Cambridge and Dublin universities.

KING'S (QUEEN'S) COUNSEL, in England, Ireland and several of the British colonial possessions, a title given to a barrister at law, by letters patent, to be the counsel of the Crown. It is a title much prized by the legal profession, simply because it is now largely one of advancement in the profession. There is no general law title and dignity which correspond to the British King's Counsel, because the latter is based upon the privileges of the Crown, which, in this respect, are little more than nominal.

KING'S DAUGHTERS AND SONS, International Order of the, an organization of men, women and children of all religious denominations, whose object is to minister to the sick and needy wherever found, and to do good to all with whom they come in contact. The original circle (of women) was formed in New York in 1886, and its members are found in 32 States in the Union, in eight Canadian provinces and circles in China, Japan, India, etc. It is organized in circles, county and city unions, chapters, national, state and provinical branches, and a central council. The badge is a small silver Maltese cross, generally suspended by a purple ribbon and bearing the initials "I. H. N." (In His name). The Society publishes a weekly paper, 'The Silver Cross.' The membership is 58,000. The order has established and is supporting several hundred institutions of different kinds in different localities. Consult the 'King's Daughters' Yearbook (New York).

KING'S (or QUEEN'S) EVIDENCE, the British equivalent of State's evidence. See INFORMER.

KING'S EVIL. See SCROFULA.

KING'S LYNN, or LYNN REGIS, a port town in Norfolk, England, near the mouth of the Great Ouse. It is noted for its fine docks covering more than 100 acres, and its excellent harbor. King's Lynn was once strongly fortified by a massive wall and moat, the ruins of which still exist. Of these ruins one of the interesting features is the so-called "South Gates," a handsome Gothic structure. The town is one of the oldest in England. After years of life as a local municipality, it received a charter as an incorporated place in the reign of King John (1204). During its official civic career it has been variously known as Lynn Episcopi, Bishop's Lynn, Lynn Regis and King's Lynn. It was several times, during the European War, the victim of aerial attacks on the part of the German air fleet, the first of which took place in 1914. King's Lynn is noted for its fine churches and schools and other public buildings, some of which are of considerable age. Among the industrial establishments of the town are iron foundries, machine shops, beer and malt establishments, oil mills and shipyards. It does a very considerable export and import business. Among the famous natives of the place were Eugene Aram and Frances Burney.

KING'S MOUNTAIN, N. C., a village in York County, 80 miles northeast of Columbia. In the vicinity is a high hill where a battle took place 7 Oct. 1780, between about 1,000 Americans, under Sevier, Shelby, Campbell and Williams, and 1,100 British, under Ferguson. The latter were defeated with a loss of 250 killed and wounded, among whom was the commander, and 664 taken prisoners after an hour's fighting. Ferguson, shouting to his men: "Crush the dammed rebels to the earth," prepared for one final charge, and fell at the head of his regulars pierced by seven bullets, dying, according to tradition, by the hand of Colonel Williams, who was also slain. His men, disheartened by his fall, surrendered. The Americans lost only 28 men killed, although a large number were wounded. After the battle 10 of the prisoners notorious for their crimes were hanged, having first been regularly tried and condemned by their captors. This was one of the most brilliant victories of the war, and exercised an important influence in precipitating the downfall of British power in the South. The 75th anniversary of the battle was commemorated by a celebration on the ground. Consult Draper, 'King's Mountain and its Heroes' (Cincinnati 1881) and McCrady, 'South Carolina in the Revolution' (New York 1901).

KING'S PEAKS, the highest points in Utah, two nearby summits of Uintah Mountains in northern part of the State. Altitude 13,496 and 13,498 feet. Named from Clarence King, director of the 40th Parallel Survey. Nearby are Emmons Peak, 13,428 feet, and Gilbert Peak, 13,422 feet.

KING'S SPEECH, The, in British Parliamentary procedure, is the speech read from the throne in the House of Lords at the commencement of each session. It reviews the political situation and outlines the ministerial legislative program. The Parliament is opened by the king in person, accompanied by the queen; he reads the speech, which is composed by the Prime Minister in consultation with his Cabinet. In the absence of the king Parliament is opened by commission, when the speech is read by the Lord Chancellor. The reply to the speech is called the address. Consult Anson's 'Law and Custom of the Constitution.'

KINGSBOROUGH, Viscount, **Edward King,** Irish writer and antiquarian, generally known as Lord Kingsborough, a title which he held only by courtesy: b. 1795; d. 1837, in a debtor's prison in Dublin. He is noted for his great work 'Mexican Antiquities,' the publication of which was begun in London in 1830 and continued for several years. See King, Edward Viscount Kingsborough.

KINGSFORD, Charles Lethbridge, English historical writer: b. Ludlow, Shropshire, 1862. Educated at Oxford, on graduation he became a member of the editorial staff of the 'Dictionary of National Biography.' From that time on he devoted most of his time to literary work in one form or another. He was assistant secretary and examiner in the Educational Department (1905–12), since which latter date he has given still greater attention to historical writing and to matters historical. He takes a great interest in the Royal Historical Society of which he is one of the most active members. Among his published works are 'Song of Lewes'; 'The Crusades' (with T. A. Archer, 1894); Henry V, in 'Heroes of the Nations' (1904); 'Chronicles of London' (1905); 'Stow's Survey of London' (1908. This contains an introduction and notes); 'Sir Otho de Grandison' (1909); 'J. Pecham, De Paupertate' (in collaboration with Little and Tocco, 1910); 'The First English Life of Henry V' (1911); 'English Historical Literature in the Fifteenth Century' (1913); 'The Grey Friars of London' (1915). Much of his work, which appeared in the 'Dictionary of National Biography,' '*English Historical Review,*' 'Encyclopædia Britannica,' *Camden Miscellany, Archæology* and *London Topographical Record,* has not reappeared in separate book form.

KINGSFORD, William, Canadian historian: b. London, England, 12 Dec. 1819; d. Ottawa, Ontario, 29 Sept. 1898. He entered the army and came to Canada in 1837 with the 1st Dragoon Guards, receiving his discharge in 1841. He then took up surveying and engineering, and was at various times employed upon the construction of the Hudson River, Panama, Grand Trunk and Canadian Pacific railways. He made his home in Canada and published 'Plank Roads in the United States and Canada' (1851); 'The Canals: Their History and Cost' (1865); and 'The History of Canada,' a voluminous work in 10 volumes which was published in 1880, and on which he was engaged for 13 years.

KINGSLEY, kingz'li, **Calvin,** American clergyman, educator and editor: b. Amesville, N. Y., 8 Sept. 1812; d. Beirut, Syria, 6 April 1870. He entered the ministry of the Methodist Episcopal Church in 1841, the same year he graduated from Allegheny College. He was professor of mathematics in his Alma Mater (1846–56), editor of the *Western Christian Advocate* (1856–64). The General Conference of 1864 elected him bishop. In 1867 he visited the mission stations in Europe and two years later he set out to visit all the mission stations of the Orient, beginning with Japan. It was on his home journey that he was suddenly stricken at Beirut, where he is buried in the Protestant Prussian cemetery. He was author of 'The Resurrection of the Dead' (1847, several eds.); 'Round the World: a Series of Letters' (2 vols., 1871).

KINGSLEY, Charles, English clergyman, novelist and poet: b. Holne Vicarage, near Dartmouth, Devonshire, 12 June 1819; d. Eversley, Hampshire, 23 Jan. 1875. He was a pupil of Derwent Coleridge (q.v.) from whose care he passed to King's College, London, and thence to Magdalen College, Cambridge, where he was graduated with high honors in 1842. Soon after graduation he took orders in the Established Church and obtained the curacy of Eversley, and became its rector in 1844. This living he retained till his death, but he also held in succession two canonries, one in the cathedral of Chester (1869–73), and one in the chapter of Westminster from 1873 till his death. From 1860 to 1869 he was professor of modern history at Cambridge. Early in his career as a clergyman of the Church of England, he associated himself with F. D. Maurice, Julius Hare

and others, both in their religious views and in their social aims. With them he considered it the peculiar duty of the Church to improve the condition of the working-classes, not only by inspiring them with Christian feeling and Christian principle, but also by encouraging and aiding them in bettering their material position. With the latter object he was a strong advocate of co-operative association. His first literary works of importance, 'Alton Locke, Tailor and Poet' (1850), and 'Yeast, a Problem' (1851), gave expression to his sentiments on social questions, and both of them, but especially the first, made a great impression when they appeared. The principal of his later novels are 'Hypatia' (1853), 'Westward Ho!' (1855), perhaps the most popular of his stories, and 'Hereward the Wake,' 'Last of the English' (1866). Other works of his are 'Glaucus, or The Wonders of the Shore'; 'Town Geology'; 'The Roman and the Teuton,' historical lectures; 'The Water Babies,' a fairy-tale of science; and 'At Last,' a visit to the West Indies. He was also the author of numerous sermons, lectures and essays, and of various poems, the chief of which are 'The Saint's Tragedy,' and 'Andromeda,' the latter one of the most successful experiments in English hexameter. He was a strong opponent of the Tractarian movement in the Church of England. A statement he made in a review, especially directed at John Henry Newman, that regard for truth for its own sake was not a characteristic of Roman Catholic theologians, was followed by some sharp correspondence, and incidentally was the cause of the writing of the famous "Apologia" of Newman. Consult 'Letters and Memories of Charles Kingsley,' by his wife (1877). See 'HYPATIA'; 'THE WATER BABIES'; 'WESTWARD HO.'

KINGSLEY, James Luce, American scholar and educationalist: b. Scotland, Conn., 1778; d. 1852. Graduated from Yale he soon became a teacher there and, in 1805, first professor of ancient languages, a position he retained for 26 years, during which he raised his department to one of the most progressive in the college. On his retirement from active duty as the head of the department he had created, he retained the title of professor of Latin until his death. He was one of the best authorities of his day in American history, though his many duties prevented him giving attention to literature and especially to historical composition, which his lectures showed he might have made a success. Among his published works are 'A History of Yale College' (1835); and 'Ezra Stiles' (a biography of the president of Yale College, published in Sparks' 'American Biography'). Consult sketch of his life by D. C. Gilman.

KINGSLEY, John Sterling, American zoologist: b. Cincinnatus, N. Y., 7 April 1854, graduated from Williams College in 1875, was professor of zoology at the University of Indiana (1887–89); at the University of Nebraska (1889–91), filled a similar position at Tufts College from 1892 to 1913, and at the University of Illinois since 1913. He edited *The American Naturalist* (1886–96) and after 1910 the *Journal of Morphology* and has published 'Elements of Comparative Zoology' (1896; 2d ed., 1904); 'Vertebrate Zoology' (1899); 'Popular Natural History' (1890); 'Guides for Vertebrate Dissection' (1907), and translated Hertwig's 'Manual of Zoology' (1902, 1912), and 'Anatomy of Vertebrates' (1912).

KINGSLEY, Mary H., English author: b. London, 1862; d. 1900. She came of rather noted literary stock, being daughter of George Henry Kingsley and niece of Charles Kingsley; and she was thus thrown frequently into the society of the noted writers and thinkers of her day in England. As a result she was a much more advanced thinker than the women of the latter half of the 19th century. She was a great admirer of Darwin, Lubbock and Huxley and others of their school who were then teaching the world of science to think along new lines of thought and investigation. She became a deep student of biology and in 1893 went to Portuguese West Africa to continue her studies in this field. While there she visited parts of the country never before visited by Europeans. Biology and botany took her again to Africa three years later, when she again showed the same venturesome spirit and desire to investigate the country in the interest of science. She traveled through great stretches of the country, including the Niger Coast, Gabun and Kamerun. Later on she continued her African studies and explorations in South Africa where she was attached to the hospital at Simons Town. There she did good work in nursing sick Boer prisoners but virtually at the expense of her own life. Among her published works, which are all well written and of great charm and interest, are 'Travels in West Africa' (1897), and 'West African Studies' (1899).

KINGSMILL GROUP. See GILBERT ISLANDS.

KINGSTON, Charles Cameron, Australian statesman: b. Adelaide, 1850; d. 1908. Graduated in law at his native city, he at once became interested and active in politics, and was, in 1881, elected to the assembly of Adelaide, a seat he held for years. After holding the office of Attorney-General he became Premier in 1893 and held the chief executive office for eight years, when he entered the Federal Cabinet of the Australian Commonwealth, with the Cabinet office of Minister of Trade and Commerce (1901–03) from which date until his death he was a member of the Commonwealth. He was very advanced in his politics and favored most of the measures put forward by the Labor and Socialist parties. Among the measures which he strongly advocated were a very radical adjustment of the franchise and fundamental changes in the laws relating to tenure of land and the position of labor. He was instrumental in the passage of laws of a very radical character for the regulation of factories and the employment of labor, for the extension of the franchise to women, and the regulation of many other social questions, among them inheritance and income taxes and progressive regulations for the protection of workmen.

KINGSTON, Duchess of (ELIZABETH CHUDLEIGH), English adventuress: b. 1720; d. Paris, 1788. She was the daughter of Thomas Chudleigh, a man of no particular social standing, who died when his daughter was only six years old, leaving the family in poverty.

Elizabeth Chudleigh grew up to be a young woman of remarkable beauty, wit and intelligence. Through these gifts and some distant family connections she succeeded in being appointed maid of honor to the Princess of Wales. Of this advantage she made the best possible use for her own advancement. This was not particularly difficult since the Princess was the mother of Prince George who was destined to become king as George III in 1760. At the age of 24 she was privately married to Captain Hervey, a man of high social standing; but his and her own irregular conduct caused their separation in a short time. She then became openly, in succession, the mistress of several prominent men until finally she succeeded in becoming the wife of the second Duke of Kingston with whom she had been living in irregular union for some years. The latter, who was passionately attached to her, left her his large fortune by will (1773), which she was able to retain in spite of an attempt on the part of the relatives of Kingston to break the will on the plea that the Duchess was a bigamist, having one husband living when she married Kingston. After Kingston's death she wandered about Europe, England proving uncongenial on account of the attitude of the relatives of her late consort. She was for a while in Russia, principally at Saint Petersburg; but the cold weather of the northern land disagreeing with her, she went to Paris where, notwithstanding her advanced age, she continued to lead as dissolute a life as she had in her youth, since the Kingston wealth enabled her to keep open house, at a time when the court of France was noted for its disregard of the formalities of family life. Elizabeth Chudleigh has another interest apart from the romance of her life, in the fact that she is stated, on very good authority, to have been the original from which were drawn the characters of Beatrice, in Thackeray's 'Esmond' and Baroness Berustine in his 'Virginians.'

KINGSTON, Canada, city, port of entry, capital of Frontenac County, in the province of Ontario. Situated at the mouth of the Cataraqui River and at the outflow of the Saint Lawrence from Lake Ontario. At Kingston the Rideau Canal from the Ottawa River at Ottawa City connects with the Saint Lawrence River and the system of the Great Lakes.

It is on the main line of the Grand Trunk Railway, between Montreal and Toronto, and is connected with the Canadian Pacific Railway, east, west and north, by means of the Kingston and Pembroke Railway. During the season of navigation, the Richelieu and Ontario and other lines of steamers connect it with Montreal and other points on the Saint Lawrence River, and with Rochester, Toronto, Bay of Quinte and intermediate points, in the West. Kingston is midway between Montreal and Toronto, being 170 miles to the west of the former, and 163 miles to the east of the latter.

The harbor, sheltered from Lake Ontario by Amherst, Simcoe and Wolfe islands, is considered one of the best on the lake. The fortifications of Kingston are third in importance in Canada, those of Quebec and Halifax taking precedence.

Kingston was for many years the most important commercial and shipping centre in Upper Canada. There the first mill was built in 1784, the first regular newspaper established in 1810; in the neighborhood the first steamboat was built in 1816, and others soon followed.

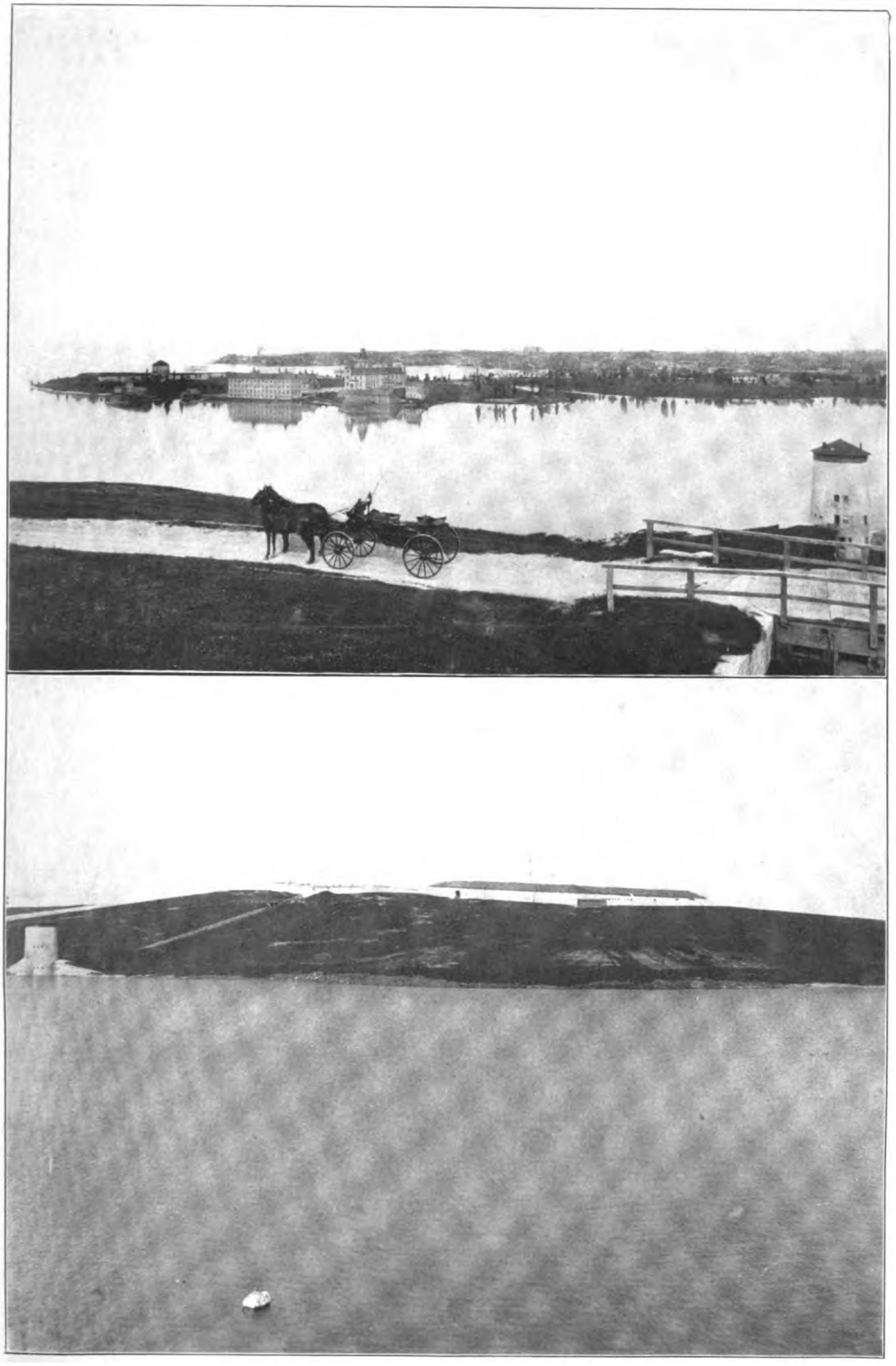
The city has large grain elevators and is an important point for the transshipment of grain coming down from the western lakes. Some of the chief manufactures of the city are locomotives, cotton, hosiery, leather, flour and cereals, boats and shipbuilding.

The leading educational institutions are Queen's University (q.v.), with which is incorporated the Kingston School of Mines; the Royal Military College, the Dairy School, Regiopolis College, the Kingston Business College and the Collegiate Institute. The city has a General Hospital, the Hotel Dieu Hospital, an Orphans' Home and House of Providence, while just outside the city limits are the Provincial Penitentiary and Rockwood Hospital for the Insane. The Anglican and Roman Catholic cathedrals and the city, county and university buildings are handsome stone edifices, adding to the attractions of the city, which has electric and gas lighting, waterworks and street railways. A bronze statue of Sir John A. Macdonald stands at the main entrance to the city park, while the Sir George A. Kirkpatrick memorial fountain faces the park in front of the county buildings.

In July 1673, the site of Kingston was first visited by Frontenac, the French governor of Canada, accompanied by La Salle. There the Indians were assembled for a conference, and during his stay the governor erected a fort built of wood and surrounded by palisades. Thus originated Fort Frontenac at Cataraqui, the first fort on the lower lakes west of Montreal. In 1675, La Salle obtained from Louis XIV a grant of Fort Frontenac and the seigniory of Cataraqui, with the adjoining islands, and two years later he partially completed a new stone fort replacing the wooden one. The fort and the mainland subsequently reverted to the French Crown, but a large part of Wolfe Island is still held by titles originally derived from La Salle. Owing to Indian incursions Fort Frontenac was abandoned and partly destroyed in 1689. In 1695, however, during Frontenac's second term as governor, the fort was rebuilt, and, until the time of the English conquest, was maintained as one of the chief French centres of authority, communication and trade for the West. From there, in 1756, Montcalm launched his successful attack upon the British post of Oswego. But in 1758 Bradstreet captured and partly destroyed Fort Frontenac.

After the British conquest of Canada, Cataraqui was practically deserted until the arrival of the Loyalist refugees during the Revolutionary War. When Carleton Island was ceded to the United States by the treaty of 1783, Cataraqui was again occupied by the British government as a military and naval station; and in 1784 it was made the centre of the Loyalist settlements in the West, the place being renamed Kingston in honor of George III. Kingston was the chief naval and military post in Upper Canada during the War of 1812–15. A new fort was constructed on Point

KINGSTON, CANADA



1 Military College and City

2 The Fort

Henry, in 1815–16, which was rebuilt in its present form in 1832–36, the advance battery being added in 1842. The four martello towers which, with the fort on Point Frederic, complete the present fortifications of the city, were built between 1846 and 1848. After the convention of 1818, by which the United States and Great Britain agreed not to maintain naval establishments upon the Great Lakes, the naval depot at Kingston was given up.

In 1838 Kingston received the charter of a city, though still called a town. In 1841, on the reunion of the provinces of Upper and Lower Canada, it was selected by Lord Sydenham as the capital of the new province of Canada. In 1844 the capital was transferred to Montreal. From Kingston have come many of the leading statesmen of the Canadian Dominion, such as Sir John Macdonald, Sir Oliver Mowat, Sir Richard Cartwright, Sir Archibald Campbell and Sir George Kirkpatrick. Pop. 19,000.

ADAM SHORTT.

KINGSTON, Jamaica, the capital of the island. See JAMAICA.

KINGSTON, N. Y., city, county-seat of Ulster County, on the Hudson River and on the West Shore, the Walkill Valley, the Ontario and Western and the Ulster and Delaware railroads; and is connected by ferry with main line of the New York Central and Hudson River Railroad, also Central New England, on the east side of the Hudson; 88 miles north of New York city, and 55 miles south of Albany. The Walkill River and Rondout Creek enter the Hudson at Kingston and the Esopus Creek passes through the upper section of the city. The first settlement was made here in 1652 by the Dutch who named the place "Esopus." On 16 May 1661, Governor Stuyvesant granted a charter to the village which he named "Wildwyck" (Wiltwyck). By the Treaty of Breda 21 July 1667, the settlement passed with the rest of the Dutch provinces along the Hudson River into the possession of the English, the first governor, Francis Lovelace, changing the name to "Kingston" in honor of his family seat, Kingston L'Isle, near Wantage, Berkshire, England. On 19 Feb. 1777 the first State Convention of the State of New York adjourned from Fishkill to Kingston, and the first State consitution was proclaimed in front of the courthouse on 22 April 1777. On 9 September of the same year, Chief Justice Jay opened in Kingston the first State court. The first State legislature met here in September of the same year, but was dispersed by the approach of the British who, under General Vaughn, entered the place on 16 October and destroyed nearly the whole town by fire, in revenge for the part taken in the War for Independence by Kingstonians. It was rebuilt and on 6 April 1805 incorporated as "Kingston Village," and chartered as "City of Kingston," 29 March 1872, comprising the former villages of Kingston, Rondout (incorporated 4 April 1849), Wiltwick which connected the two, and the hamlet of Wilbur.

The chief manufactures are bricks, cement, boats, cigars, shirts, brushes, stone tubs, hardware and machinery. It is the commercial centre for a large extent of country, and has an extensive trade in farm products, coal, cement, brick, bluestone, cigars, grain, lumber, clothing, hardware. It has eight grade schools and new High School, two business colleges, City Library, Armory, City Hall, Court House, central post office building and two branch offices at respective ends of the city, several fine churches, Y. M. C. A. building, K. of C. building, Women's Federation House, D. A. R. Chapter House, three modernly equipped hospitals, a large sanitarium, an industrial home, a Catholic orphanage, five national and three savings banks. The bridge owned by the West Shore Railroad is about 150 feet above tidewater. The "Senate House," the first home of the New York legislature, contains a collection of relics connected with the early settlement of the country. Kingston Point Park, about 50 acres in extent, on the Hudson, is being made more attractive each year. The large steamers land at this park. Daily boat service is maintained to New York and Albany and intermediate points. The city government is vested in a mayor, who holds office two years, a common council and board of public works. The executive appoints the subordinate officials, subject to approval by the council, excepting the city judge and the recorder, who are elected by the people, and officials directly responsible to the Board of Public Works. Pop. 26,542.

KINGSTON, Pa., borough in Luzerne County, on the Susquehanna River, opposite Wilkes-Barre; on the Lehigh Valley and the Delaware and Lackawanna railroads. Here is the seat of the Wyoming Methodist Seminary. The principal industry is coal mining. The repair shops of the Lackawanna Railroad are located here. Kingston was incorporated as a borough in 1858. In the near vicinity in 1778 occurred the famous Wyoming Massacre. Pop. 6,449.

KINGSTON, Ireland, a seaport and watering place on Dublin Bay, a short distance southeast of Dublin. Its present name was given it in 1821 on a visit of George IV after whom it was renamed, its old name being Dunleary. Owing to the fact that it has a fine harbor it has long been a place of extensive shipping, among the many imports being coal, iron, lumber, timber and other raw building material; while its exports consist of the products of an extensive range of local territory from which come cattle, grain, stone and lead ore. Pop. 20,000.

KINGSTON-ON-THAMES, England, a town near Richmond, on the Thames and in Surrey. The derivation of the name is uncertain, but it is said to have had its origin in an ancient stone in the market place of the city upon which were engraved the names of several early kings of England of Saxon line. This stone, tradition says, was, like the famous stone of the Scottish kings, a sacred object upon which the kings were crowned; and it was intimately connected with the traditional life of the Saxon sovereigns and people and with their mythology and religio-tribal ceremonies, according to certain archæologists who have given it close attention and study. This stone was in the church of Saint Mary until 1779. The town itself is a place of considerable commercial and industrial importance; and has grown outside its original boundaries

since 1880. It possesses an extensive market and mills and factories of several kinds; and it has long been a place of summer residence for the people of London. As will be gathered from the fact that there were crowned there several of the Saxon sovereigns, it was a place of importance at an early date in the history of England, and it never altogether lost its air of prosperity. On account of its social relations it figures frequently in English literature. Pop. 40,000.

KINGSVILLE, Tex., town, county-seat of Kleberg County, on the Saint Louis, Brownsville and Mexico Railway, 118 miles north of Brownsville and 235 miles southwest of Houston, Tex. Its chief manufacturing industries are cotton-oil mill, creamery with annual output of 200,000 pounds, broom factory, railroad shops, electric-power plant and ice factory. A considerable domestic and export trade is carried on in the agricultural products of the county, comprising corn, cane, non-saccharine sorghums, broom corn, melons, potatoes and winter vegetables, and the Hereford, Shorthorn and Jersey cattle of the famous ranges and dairy farms of the neighborhood. In addition to substantial business buildings, the town has costly and handsome brick or concrete structures, including courthouse, county hospital, general railroad offices, hotel, Masonic Temple, two brick ward public schoolhouses and a high school. It is the seat of the Texas-Mexican Industrial Institute and of the projected South Texas State Normal College. Formed out of the 10,000,000-acre King Ranch owned by Mrs. Henrietta M. King and managed by her son-in-law, Mr. Robert J. Kleberg, after whom the county is named. Kleberg County borders on the Gulf of Mexico and has a semi-arid and semi-tropical climate. The summers are pleasant and the winters are so mild that palms and citrus fruits are grown. The topography of the country is slightly rolling and has an average elevation of 60 feet abov. sea-level. It is free from malaria and otherwise healthful. The King Ranch home is one of the most magnificent residences in the South. Paved highways, one of which leads to the celebrated Rio Grande Valley, extend throughout county and State. Pop. 5,500.

MARCUS PHILLIPS,
Secretary, Kleberg County Commercial Club.

KINGTEHCHIN, king'tĕ-chĕn, or **CHINGTECHEN,** China, province of Kiangsi, one of the great porcelain manufacturing and market centres of the nation, a city of great antiquity. Pop. over 500,000.

KINGWOOD, a very handsome Brazilian wood believed by many to be a derived species by crossing, while others claim that it belongs to the Dalbergia, which has numerous representatives in India and the southern countries of Asia generally. It has been claimed for it that it is a species of Triptolomæa while others have maintained that it belongs to the *brya ebenus.* Kingwood, which is generally very handsomely streaked with violet of different shades and densities of color, is used in the making of fancy cabinets, and cabinet ornaments of smaller dimensions.

KINKEL, kĭn'kĕl, **Gottfried,** German poet and critic: b. Oberkassel, 12 Aug. 1815; d. Zürich, 13 Nov. 1882. Graduated in theology he entered the Protestant ministry where he distinguished himself as an eloquent preacher, lecturer and public speaker. Among his other duties he was lecturer in the University of Bonn from 1836 to 1848, from time to time, though not regularly, his special subjects being poetry, the history of art and ecclesiastical history. His usefulness was cut short in his own country through his getting mixed up in the revolution of 1848. His arrest followed; but he managed to escape and made his way to the United States, where he made his living for some time as a teacher of languages. Later on he was in London and Zürich in the same capacity. But he was never able to return to Germany. It was probably his love of his native country that brought him to Zürich. He was a poet of some power and originality. Among his published works are 'Gedichte' (2 vols., 1843); 'Otto der Schutz,' a narrative poem of which nearly 100 editions were published (1845); 'Die altchristliche Kunst' (1845); 'Die Ahr, Landschaft; Geschichte und Volksleben' (1845); 'Nimrod' (a tragedy, 1857); 'Mosaik zur Kunstgeschichte' (1876); 'Tanagra, Idyll aus Griechenland' (1883); and 'Erzählungen' (with his wife, Johanna Kinkel, 1849).

KINNICUTT, Leonard Parker, American chemist and sanitary expert: b. Worcester, Mass., 1854; d. 1911. Educated at the Massachusetts Institute of Technology, Johns Hopkins, Harvard, Heidelberg and Bonn, he became instructor of chemistry at Harvard (1880–83) and full professor of chemistry (1885–90), being appointed, on the latter date, head of the chemistry department of Worcester Polytechnic Institute. He carried on extensive chemical investigations, extending them to the effects of chemical action on sewage. This and other more practical work made him one of the greatest sewage experts in the United States. He also gave a great deal of attention to the supply of water, its purification and preservation from impurities. His connection with the Connecticut Sewage Commission in the capacity of consulting chemist gave a very practical turn to his laboratory experiments of which he made full use. In his capacity of associate editor of *The Journal of Industrial and Engineering Chemistry* he wrote a great deal on industrial chemistry in all its many phases; but all this material, with the exception of some recast and incorporated in 'Sewage Disposal' (1910), has remained unpublished in separate book form.

KINO, kē'nō, an American gambling game evolved out of the juvenile game of lotto (q.v.). See KENO.

KINO, kē'nō, a kind of gum which exudes from certain trees when an incision is made, and is dried without artificial heat. The East Indian or Malabar kino comes from a leguminous tree (*Pterocarpus marsupium*); Bengal or Palas kino from *Butea frondosa;* and Australian or Botany Bay kino from *Eucalyptus rostrata;* West Indian from a third plant (*Coccoloba unifera*). It consists of dark red angular fragments, rarely larger than a pea, and easily splitting into still smaller pieces. It is very soluble in spirits of wine, and in general behavior closely resembles catechu, and yields

by similar treatment the same products. In medicine it is an astringent and tonic.

KINSOLVING, George Herbert, American Protestant Episcopal bishop: b. Bedford County, Va., 28 April 1849. He was graduated from the Theological Seminary at Alexandria, Va., and was ordained to the priesthood in 1875. He was successively rector of churches in Baltimore, Cincinnati and Philadelphia, and in 1892 was consecrated assistant bishop of Texas. He succeeded the late bishop Gregg as bishop of Texas 11 July 1893. He was a delegate to the General Convention of his church in 1892 and has published 'The Church's Burden.'

KINSTON, N. C., town, county-seat of Lenoir County; on the Neuse River, and on the Atlantic and North Carolina, the Atlantic Coast Line, Kinston-Snow Hill and Carolina railroads, and the Southern National Highway from Pamlico Sound, the Atlantic Ocean and the Harbor of Refuge at Cape Look Out, about 78 miles southeast of Raleigh and about 60 miles from Pamlico Sound. It is situated in a fertile agricultural, stock raising and trucking region, in which tobacco and cotton are the chief productive crops. Kinston is an important trade centre and contains a number of large warehouses. Its chief industrial establishments are stemmeries, packing houses, ice plants, machine-shops, foundry, wagon works, turpentine distillery, box and barrel factories, shingle mills, knitting mills, silk mills, lumber mills, cotton and cotton-seed oil mills, guano mills, carriage factories, wholesale groceries, mattress factory. It is the seat of the Rhodes Military Institute, of the Herritage mansion, formerly the State Capitol, and has a handsome post office, high schools and public library. The city owns all its public utilities, has a modern sewerage system, asphalt paved streets and new light plant. While on the Neuse River and near Southwest Creek, Trent River, Stonington and other creeks, it secures a pure water supply from 10-inch overflowing artesian wells, over 400 feet deep. Pop. 10,000.

KINSTON, Battle of. On 1 March 1865 General Cox, with three divisions of infantry, pushed forward from Newbern, N. C., toward Goldsboro to open communication with General Sherman, who was marching northward from Savannah, and on the 7th two of his divisions were at Wise's Forks, near Southwest Creek, a tributary of the Neuse River, with one division three miles in rear. A brigade was advanced to a cross-road about midway between the main line and the creek. General Hoke, with his Confederate division, crossed the creek on the night and early morning of the 7th and 8th, flanked, surprised, and routed the advance brigade, taking over 900 prisoners and, pressing on, fell upon the left of Cox's line, but was repulsed. He renewed the attack and was again repulsed. On the 9th there was sharp skirmishing and the Confederates made repeated efforts to turn Cox's right, which were foiled. On the morning of the 10th Hoke and D. H. Hill made vigorous and successive attacks first upon the left and then on the right of Cox's line, but were repulsed, and General Bragg, who was in supreme command, made no further effort, retreated across Neuse River during the night, burning all bridges behind him, left a small guard at Kinston and, with the rest of his command, hastened through Goldsboro to join J. E. Johnston, who was concentrating everything available to oppose Sherman. General Schofield joined Cox with troops from Wilmington, and reached Goldsboro on the 21st, Sherman joining him two days later. The Union loss at Kinston was 65 killed, 319 wounded and 930 missing; the Confederate loss is not known. D. H. Hill reports a loss in five brigades of 118 killed and wounded and 16 missing. Schofield estimated the entire Confederate loss at 1,500, which is probably excessive. Consult 'Official Records' (Vol. XLVII); Cox, J. D., 'The March to the Sea' (New York 1882), and 'Military Reminiscences of the Civil War' (Vol. II, New York 1900).

KINTYRE, kin-tīr', a peninsula of Scotland, between the Firth of Clyde and the Atlantic, forming the division of Argyleshire. It is 40 miles long from the Isthmus of Tarbet to the Mull of Cantyre, and has an average breadth of about 7 miles.

KINYOUN, kin'yūn, **Joseph James,** American educator and pathologist: b. East Bend, N. C., 1860. Educated at New York University, he soon afterward entered the United States Marine Hospital service (1886–1900). He became professor of hygiene and bacteriology at Georgetown University in 1890, and he was connected with that institution until 1907 when he became professor of Pathology at George Washington University (1907–09) and later pathologist to the Washington Tuberculosis Hospital. He was decorated with the Order of Bolivar of Venezuela in 1895.

KINZIE, kin'zi, **John,** American pioneer: b. Quebec, Canada, 3 Dec. 1763; d. Chicago, Ill., 6 Jan. 1828. His name was originally McKenzie. His father, a British army surgeon, dying soon after the boy's birth, his mother married again and removed to New York, John Kinzie was educated there, but, at the age of 10, ran away from home and made his way to Quebec where he was a jeweler's assistant for some years. He then returned home and a few years later went with his step-father's family to Detroit. He became now a trader in the western United States, and in 1803 established a post outside of Fort Dearborn on the site of the present Chicago, of which he was the earliest white settler. He also set up stations on the Illinois, Kankakee and Rock rivers. He was very successful as a trader and, as a result of his honesty and generosity, made many friends amongst the Indians. It was due to this fact that his life and the lives of his family were saved during the massacre in 1812. After the end of our second war with England John Kinzie and his family returned to Chicago from Detroit where they had sought safety, though he himself had finally been taken prisoner by the British and sent to Quebec. He early recognized the possibilities of Chicago and acquired extensive real estate holdings. Consult Gordon, E. L. K., 'John Kinzie, the "Father of Chicago"' (Savannah 1910); Kinzie, Mrs. J. H., 'Wau-bun, the Early Day in the Northwest' (New York 1856); Laut, A. C., 'First Families of Chicago' (in *Outing,* Vol. LIII, p. 591, New York 1909).

KIOSK, kē-ôsk, a Turkish word meaning pavilion. It has a tent-shaped roof, open on all sides and is supported by pillars, round the

foot of which is a balustrade. It is built of wood, roofed with straw or similar materials, and is chiefly erected to afford a free prospect in the shade, but it also serves to embellish a rural or garden view. This kind of pavilion has been introduced from the Turk and Persian into the English, French and German gardens. The word has, however, gradually acquired a wider meaning and is now applied to temporary or permanent structures of the type described above, irrespective of the purpose for which they are used or of the material from which they have been built. Thus pavilions for musicians in public parks, booths for the sale of newspapers and similar articles, are now called Kiosks. The most famous Turkish kiosks are Bagdad Kiosk (Constantinople), dating from the early 16th century; Chinli Kiosk (Constantinople), dating probably from the 15th century and now housing part of the collection of the Imperial Museum of Antiquities; Yildiz Kiosk (near Constantinople), summer palace of the Turkish Sultan and frequently used to designate the Turkish court and government.

KIOTO, kē-ō'tō, or **KYOTO,** Japan, a city in the province of Yamashiro, and for over 1,000 years the capital; situated on a flat plain about 26 miles inland from Osaka. A high range of hills to the east separates this plain from Lake Biwa, and on these some of the finest temples connected with the city are built. The city is rectangular in form, the longer streets running north and south parallel to the Kamo River, which flows along the base of the ridge. At the north end are situated in an enclosure the plain wooden buildings where the emperors of Japan dwelt so long in seclusion. The Honganji temples of the Monto sect of Buddhists, fine structures of their kind and the centre of the Buddhist faith in Japan, rise at the south end of the city. The university has six colleges, a staff of 356 professors and lecturers, and over 5,000 students, and possesses a library with over 225,000 volumes. The Doshisha, or Christian college, is a well-equipped institution, under American control. The streets, though narrow, are clean and attractive, there is a street railway, and the whole city has an air of refinement. The singing girls of Kioto are noted for their graceful dances. The pottery, porcelain, crapes, velvets and brocades of Kioto are highly esteemed; its embroideries, enamels and inlaid bronze-works are marvels of skilful handicraft. The capital was not removed from Kioto until 1868, when the Mikado and his court took up residence at Tokio (Yeddo). Pop. 509,380.

KIOWA, kī'o-wą (properly kāī-gwŭ meaning "Principal People"), a considerable Indian tribe now in Oklahoma, whose language forms a distinct stock, who have resisted with unusual virility the physical decay so common among the tribes, and whose pictograph calendar from about 1830 is of scientific interest. They were first noticed in 1732. In dress and dwellings they are civilized, but otherwise tenacious of their old customs; of which the most prominent were the sun dance, and devotion to a stone image called the Taimé, a sort of guardian deity. They had a military order of six degrees, and were organized in six bands; one of which, inaccurately called the Kiowa Apache (by themselves "Nadiishañdina"), is an Athapascan tribe immemorially confederated with them. First living (according to their and other tribes' traditions) in the Montana Rockies along the head waters of the Missouri and Columbia, they followed the retreating buffalo herds southward along the plains, allying themselves with the Crows and assailed by the Cheyenne and Sioux; halted for a while successively in the Black Hills and along the Platte and Arkansas. At first warring with the Comanches, but since 1790 in confederacy with them they finally made peace with the Cheyennes and Arapahoes. They became one of the most formidable scourges of the plains, harrying the frontiers of the United States and Mexico. The treaty of Medicine Lodge, Kan., in 1867, enforced (after their disobedience) by Custer's troops during the next winter, placed them, with the Comanches, Cheyennes and Arapahoes, upon reservations in Oklahoma. They broke loose in 1874 and Mackenzie was obliged to kill their horses and deport their leaders and chief men to Florida. In 1892 measles and typhoid fever destroyed over 300 Kiowas. Thenceforth they remained on the reservation. This was thrown open to settlement in 1901, and they accepted American citizenship. Their number, about 1,300, is not very much less than at any time for a century. Mooney, 'Calendar History of the Kiowa Indians' ('17th Report, Bureau of American Ethnology' 1898); 'Ghost Dance Religion' (14th Report, Bureau of American Ethnology).

KIP, William Ingraham, American clergyman: b. New York, 3 Oct. 1811; d. San Francisco, 7 April 1893. He was educated at Rutgers College and at Yale, where he was graduated in 1831. His theological training was acquired at the Protestant Episcopal Theological Seminary of New York City from which he graduated in 1835. The same year he was ordained deacon and priest. He was rector of Saint Peter's, Morristown, N. J., 1835–36; Curate of Grace Church, New York, 1836–37; rector of Saint Paul's, Albany, N. Y., 1837–53; first missionary bishop of California, 1853–57; first bishop of California, 1857 until his death. He was the author of 'The History, Object and Proper Observance of the Holy Season of Lent' (1843; 4th ed., 1853); 'The Double Witness of the Church' (1844, other eds.); 'The Christmas Holidays in Rome' (1845); 'Early Jesuit Missions in North America' (1846); 'Early Conflicts of Christianity' (1850); 'The Catacombs of Rome' (1854, 3 eds. in New York and 2 in London); 'Recantation,' a tale of domestic life in Italy (1855); 'The Unnoticed things of Scripture' (1868; 3d ed., 1879); 'The Olden Time in New York, 1664–1775' (Anon. 1872); 'Historical Scenes from the Old Jesuit Missions' (1875); 'The Church of the Apostles' (1877).

KIPLING, John Lockwood, British Indian civil servant: b. Pickering, Eng., 1837; d. 26 Jan. 1911. He entered the Indian Educational Service; was architectural sculptor in the Bombay School of Art, 1865–75; and principal in the Mayo School of Art and curator of the Central Museum, Lahore, 1875–93. He is the author of 'Beast and Man in India' (1891).

Mr. Rudyard Kipling (q.v.), the distinguished novelist, is his only son.

KIPLING, Rudyard, English novelist and poet: b. Bombay, India, 30 Dec. 1865. His father, John Lockwood Kipling, known as the author of 'Beast and Man in India,' was at that time a professor of sculpture in the school of art at Bombay. The novelist's mother, Alice Macdonald, a woman of beauty and talent, was a daughter of a Methodist preacher at Endon, in Staffordshire. The boy was named, it is said, from Rudyard Lake in Staffordshire, where his parents first met. Taught to read by his mother, he was taken to England, at the age of five, and placed, with a younger sister, in the care of a relative at Southsea, a suburb of Portsmouth, where he remained for seven years, subject, it has been inferred from the opening chapter of 'The Light That Failed,' to narrow and irksome discipline. In 1878, he was sent to the United Service College of Westward Ho, near Bideford, in Devonshire. It was a school managed by civil and military officers for young men who intended to enter the Indian service. The rough life passed there is described in 'Stalky and Co.' (1899), wherein Kipling, who edited for two years the *College Chronicle,* figures as Beetle, the clever versemaker. In 1882 Kipling went out to India and obtained, by the aid of his father, a position on the editorial staff of the Lahore *Civil and Military Gazette.* After five years of this, he became assistant editor of the *Pioneer* at Allahabad, a position which he held until 1889. While on these papers he gained his wide and intimate knowledge of Indian life and affairs at first hand. The newspaper office of his time, he has said, attracted "every conceivable sort of person" from respectable army-officers and missionaries down to inventors of "unbreakable swords" and "every dissolute ruffian that ever tramped the Grand Trunk Road." Out of these motley people, what they told him, and what he saw and divined of them, he built up his tales. By 1886, when appeared 'Departmental Ditties and Other Verses' in a buff paper wrapper, he was known to a large circle of readers in India by short-stories, local verse-satires and parodies, which he was contributing to his own and other newspapers. Then came 1888, the *annus mirabilis.* In that year Kipling published seven volumes of stories: 'Plain Tales from the Hills'; 'Soldiers Three'; 'The Story of the Gadsbys'; 'In Black and White'; 'Under the Deodars'; 'The Phantom Rickshaw and Other Tales'; and 'Wee Willie Winkie and Other Child Stories.' In 1889, he made a tour of the world, with his stories and manuscripts, hoping especially to find a publisher in the United States. In this aim he was immediately disappointed. His severe strictures on America, contributed to the *Pioneer,* were afterward published in New York, and are now included in his works as a part of 'From Sea to Sea.' After a hard struggle, recognition in the western world came to him in 1890, while he was staying in London. To this and the next year belong 'The Courting of Dinah Shadd and Other Stories'; 'The City of Dreadful Night and Other Sketches'; 'Life's Handicap'; and 'The Light that Failed.' While in London, Kipling met Mr. Wolcott Balestier, an American author, with whom he collaborated on 'The Naulahka.' In 1892, he married his friend's sister, Caroline Starr Balestier, and settled near the Balestier estate at Brattleboro, Vt., eventually building on the hillside a long, low bungalow, called the Naulahka. There he wrote many of his best poems and stories. For verse may be cited some of the 'Barrack-Room Ballads' (1892) and 'The Seven Seas' (1896); and for fiction, 'Many Inventions' (1893); 'The Jungle Books' (1894–95), and 'Captains Courageous' (1897). Leaving Vermont in 1896, Kipling went out to South Africa in 1898, and paid a brief visit to New York in 1899, where he barely escaped death from pneumonia. He had already made his home in a little English village near Brighton, in Sussex. To this later period belong 'The Day's Work' (1898); 'From Sea to Sea' (1899); 'Kim' (1901); 'Just-So Stories' (1902); 'The Five Nations' (1903), a volume of verse; 'Traffics and Discoveries' (1904), and 'Puck of Pook's Hill' (1906); 'Actions and Reactions' (1909); 'Rewards and Fairies' (1910); 'A History of England,' with R. C. L. Fletcher (1911); 'Songs from Books' (1913); 'The Harbour Watch' (1913).

Kipling has been one of the most striking figures in English literature since he first came to his own in 1890. It is now a commonplace to say that he revealed India to the western world, not after the romantic manner of Scott's dealing with Scotland, but in a wonderfully direct and realistic way. Of rare perceptive powers, he sees the import of things and is able to convey it to his reader exactly. Perhaps there was no set plan about it, but his early tales comprehended nearly every phase of the English government in India so far as it came under his eyes. In them jostle the English soldier, the English civilian, and the native man and woman. He kept most closely to the Punjab, which he best knew; to its sweltering heat under which the mercury climbs slowly to the top of the glass and the printing-presses grow red hot; to its drenching rains, fever and cholera, in other seasons; its blinding sand storms, and the picnics and intrigues they interfere with; the immense perspective of a star-lit heaven; the filth and superstition of the natives; the hap-hazard process of law-making; villages invaded and blotted out by the jungle; and barrack-room yarns in which Tommy Atkins tells of his practical jokes, adventures and death grapples on the battle-field with giant Afghans.

The conditions under which he first worked demanded great concentration of incident and style. Engaged to sort telegrams and clippings or to write editorials for his newspaper, he had little time for developing his stories at length. They were dashed off rapidly from first impressions and made to fit into the scant space that was left for them. Merely the sketch or the outline was given in short jerky sentences, and the salient points in character were suggested by the epithet that comes only under the intense pressure of the moment. No other story-teller was ever able to put so much as Kipling into so little space. When more at his ease, he developed a type of his own running from 25 to 50 pages. Taken all in all, considering matter and treatment, the best story Kipling ever wrote is 'The Man Who Would be King.' What happens to one or

the other when the Englishman involves himself with the affairs of the Hindoo woman is told in 'Without Benefit of Clergy,' and 'Beyond the Pale.' For the uncanny and ghastly may stand 'At the Pit's Mouth' and 'The Gates of a Hundred Sorrows,' and for ludicrous extravaganza 'My Lord the Elephant' and 'The Incarnation of Krishna Mulvaney.' Among superb battle pieces are 'The Taking of Lungtungpen,' 'The Lost Legion,' 'With the Main Guard,' and 'Drums of the Fore and Aft.' In the 'Jungle Books' Kipling gave fresh life and meaning to the ancient beast-fables of India.

Trained from the beginning in the short story, Kipling seems unable to break from its limitations. 'The Light that Failed,' and 'Captains Courageous' are most readable, but in neither case was the theme thoroughly grasped or the treatment adequate. 'Kim' is not so much a novel as a short story long drawn out. But within the province of the short story Kipling may be classed with Stevenson. A tendency to obscure symbolism, apparent now and then in his early work, has grown upon him, to the harm, it would seem, of his art. 'They,' for example, beautiful as it is, was difficult to understand, and some of the other stories in 'Traffics and Discoveries' were clearly an attempt to transfer to prose the dramatic monologue of Browning. Combined with this endeavor is also a fondness for coincidences, which, though cleverly managed, are unnecessary and unconvincing. The romancing of machinery in '.007,' and 'The Ship that Found Herself,' so striking and novel at the time of their appearance, have since ceased to interest. Much of Kipling's later work has, however, its own grace and beauty. 'An Habitation Enforced' is certainly a fine story, and 'Puck of Pook's Hill' is a notable experiment in English folk-lore and legend. The later work of Kipling includes three volumes dealing with phases of the Great European War. 'France at War' (1915) is a tribute no less to the iron nerve and valor of the soldiers of that country than it is to the quiet, patient, day-by-day heroism and self-sacrifice of the women. 'Fringes of the Fleet' (1915) visualises the work of the submarines, destroyers, and smaller craft of the British navy. 'Tales of The Trade' (1916) tells of the remarkably daring and successful work of the British submarines, especially at the Dardanelles, while 'The Eyes of Asia' (1918) gives the Asiatic view of the war and Europeans. In these, his latest works, Kipling shows all the astounding mastery in phrase-making, the same sure instinct for the inevitable word, that first brought him into fame.

It should be remembered that Kipling was a verse-maker before he wrote tales. As early as 1881 appeared for private circulation his 'School Boy Lyrics.' 'The Departmental Ditties' were humorous and satirical jingles, which were originally thrown off without effort to fill in the blank spaces of his newspaper when other copy was wanting. His first great success was with 'Barrack-Room Ballads,' mostly in the slang of the British 'Tommy' dialect. They are not narrative ballads of the traditional type; they are rather songs with choruses and refrains, easily lending themselves to memory. In their kind there is nothing better than 'Tommy,' 'Danny Deever,' 'Fuzzy-Wuzzy,' 'Soldier, Soldier,' and 'Mandalay,' wherein "the very refuse of language" is made poetical. Kipling's theme has broadened with time. No poems of the present generation are better known than 'The Recessional' (1897), composed on witnessing the naval review at Spithead on the occasion of Queen Victoria's diamond jubilee, and 'The White Man's Burden' (1899), an appeal to the spirit of imperialism in the United States. Something of the same exalted strain characterizes his short poem written on the outbreak of the Great European War, "For All We Have and Are." He was awarded the Nobel prize in literature in 1907. See BARRACK-ROOM BALLADS; JUNGLE BOOKS, THE; SOLDIERS THREE; KIM.

Bibliography.— Among the collected editions of Kipling's works in verse and prose are the 'Outward Bound' and the 'Swastika.' 'A Kipling Primer,' by F. L. Knowles (Boston 1899) contains a brief biography, and a bibliography to date. Richard Le Gallienne's 'Rudyard Kipling' (London and New York 1900) is the most complete estimate. Consult also 'Rudyard Kipling, the Man and His Work' (London 1899) by G. F. Monkshood (the pen-name of W. J. Clarke); Young, 'Dictionary of Characters and Scenes in the Stories and Poetry of Rudyard Kipling' (1911); Durand, 'Handbook to the Poetry of Rudyard Kipling' (1914).

WILBUR L. CROSS,
Professor of English, Yale University.

KIPPER, a kippered herring, that is one preserved by smoking or pickling. Anciently in Scotland the word signified a salmon taken after the spawning season, and split, salted and dried, because of its inutility when fresh.

KIP'S BAY, Battle of, in the American Revolution. When Washington retreated from Brooklyn after the battle of Long Island (q.v.) he took position on Harlem Heights, New York, leaving troops lower on the island to oppose Howe's advance. On 15 Sept. 1776 Howe began to land his troops at Kip's Bay where the Americans had thrown up defensive works. When the British advanced the Americans became panic-stricken and, despite the efforts of Washingtn and Putnam, fled in disorder, whereupon all the troops were withdrawn to the position at Harlem Heights (q.v.). Consult Johnston, H. P., 'The Campaign of 1776'; id., 'Battle of Harlem Heights'; Lossing, 'Field-Book of the Revolution,' (Vol. II, p. 610 *et seq.*); Lowell, E. J., 'Hessians in the Revolution' (p. 72); Jones, 'New York in the Revolution' (Vol. I, p. 604); Livingston, William F., 'Life of Putnam' (pp. 308–309).

KIPTCHAK, kĕp-chăk', or **KAPTCHAK,** the "Kingdom of the Golden Horde," the successor to the kingdom of the famous Mongol conqueror, Genghis Khan, by whose descendants it has been ruled since his day. It was very much mixed up with the affairs of Russia for many years, and the Romanoffs, the late royal Russian family, had in their veins the blood of the rulers of the Golden Horde, which at one time included much of modern Russia, reaching as it did westward to the Dnieper

and extending far into central Asia. Its capital, Sarai, which was founded on the Volga in 1242, became, in the course of time, noted for its wealth, barbaric splendor and slave market, where the Russians taken in the almost ceaseless contests between Mongol and Slav, were sold. Timur the Terrible plundered Sarai and the surrounding country in 1395, and it suffered several times in later years at the hands of the Russians. The kingdom of the Golden Horde before whose magnificent barbaric court many a powerful Russian prince was forced to bow for centuries finally fell because of dissensions within itself which divided the kingdom into two independent governments. These fell, one by one, before the growing power of the grand princess of Russia, but not without many a bloody struggle which the Slavs long remembered. (See GENGHIS KHAN). Consult any good history of Russia; also Curtin, 'The Mongols' (Boston 1908); Douglas, 'Life of Genghis Khan' (London 1877); Erdmann, 'Temudschin der Unerschütterliche' (Leipzig 1862); Holworth, 'History of the Mongols' (London 1877–88); Hoyle, 'History of the Mongols' (London 1890); Johnston, 'Famous Cavalry Leaders' (Boston 1908).

KIRBY, kĕr'bĭ, **William**, Canadian author; b. Kingston-upon-Hull, England, 13 Oct. 1817; d. 1906. He removed to Canada in 1832. In 1839 he went to Niagara, Ontario, where he edited and published the *Mail* for 25 years, and from 1871 to 1895 was collector of customs. He published 'U. E., a Tale of Upper Canada,' a poem (1859); 'Le Chien d'Or,' a novel (1877); 'Pontiac' (1887); 'Canadian Idylls' (1888); 'Annals of Niagara' (1896). His title to fame rests on his great historical romance, 'The Golden Dog,' a work that depicts with remarkable power the historical personages associated with the last years of the French régime in Canada, and has been instrumental in sending thousands to visit the city of Quebec, in which the scene of the romance is laid.

KIRCHBACH, kĭrh'bäH, **Wolfgang**, German critic and poet: b. London, England, 18 Sept. 1857; d. 1906. He was the son of a German artist and studied in Dresden and Leipzig. Settling in the former city in 1888 he was editor of the *Magazin für Litterotur des In-und Auslandes;* but from 1896 lived in Berlin. Among his works may be cited 'Märchen' (1879); 'Salvator Rosa,' a romance (1880); 'Gedichte' (1883); 'Das Leben auf der Walze' (1892); 'Die letzten Menschen,' a drama (1892); 'Miniaturen' (Stuttgart 1892); 'Des Sonnenreichs Untergang' (Dresden 1895); 'Gordon Pascha' (ib. 1895); 'Eginhardt und Emma' (ib. 1896); 'Der Lieder vom Zweirad' (1900).

KIRCHHOFF, kĕrk'hŏff, **Charles William Henry**, American editor and steel expert: b. San Francisco, Cal., 28 March 1853; d. Asbury Park, N. J., 22 July 1916. He attended school in the United States and Germany and was graduated from the Royal School of Mines at Clausthal, Germany, in 1874, taking the degree of mining engineer and metallurgist. During the next three years he was chemist, assayer and assistant superintendent of the Delaware Lead Mills at Philadelphia. Beginning his career in technical journalism in 1876, when he was correspondent of English, German and Capetown, Africa, papers, he became connected with the *Metallurgical Review* in 1877, and a little later joined the staff of the *Iron Age*, leaving it for a time to be managing editor of the *Engineering and Mining Journal*, but returning in 1884. Four years later he became its editor-in-chief and vice-president of the David Williams Company, the publishers. Mr. Kirchhoff kept up his editorial work, in which he won distinction, until his resignation in 1909, although he had been asked by Mr. Andrew Carnegie to quit New York for Pittsburgh and the Carnegie Steel Company. From 1898–99 and 1911–12 he was president of the American Institute of Mining Engineering. He was at one time a special agent of the United States Geological Survey for the collection of statistics of the production of copper, lead and zinc. He was a member of the Iron and Steel Institute, was once president of the Germania Club and was a member of the American Society of Mechanical Engineers.

KIRCHHOFF, Gustav Robert, German physicist: b. Königsberg, 1824; d. 1887. Graduated from the university of his native city, he was elected professor of physics at Breslau (1850), and four years later he went in the same capacity to Heidelberg, and from there to Berlin (1875–87). He made many original investigations in the realm of physics and was joint discoverer with Bunsen of the spectroscope. His collected works, consisting principally of essays on his special subject of teaching, physics, were published in 1882, and a second edition was issued four years after his death.

KIRCHHOFF, kĕrk'hŏf, **Johann Wilhelm Adolf**, German writer and classical scholar: b. Berlin, 1826; d. 1908. Educated in his native city he was a teacher in various colleges, finally becoming professor in Berlin University (1865–1908). He was an indefatigable worker in the field of classical philology, linguistics, mythology and antiquities. A great deal of his investigations saw the light in print, hence his publications are many, and all of them are distinguished by depth of thought, excellent judgment and careful and minute investigation. Among the most noteworthy of his published works are 'Umbrische Sprachdekmäler' (1849–51); 'Die Stadtrecht von Bantia' (1853); 'Euripides' (1855); 'Die homerische Odyssee und ihre Entstehung' (1859); 'Ueber die Entstehungszeit des herodotischen Geschichtswerkes' (1870); 'Studien zur Geschichte des griesischen Alphabets' (1874); 'Thucydides und sein Uhrkundenmaterial' (1895), and edited editions of 'Plotinus' (1856); 'Æschylus' (1880); 'Respublica Atheniensium' (1881); 'Christian Inscriptions.'

KIRCHMANN, kĕrk'mąn, **Julius von**, German writer and philosopher: b. near Merseburg, 1802; d. 1884. Educated in law at Leipzig and Halle, he became, some time afterward, state attorney in the Berlin Criminal Court (1846). He was successively a member of the National Assembly of Prussia (1848) and of the German Reichstag (1871–76). He studied and wrote much upon philosophy of

which he was recognized as one of the leading writers of his day. Among his published works are 'Die Wertlosigkeit der Jurisprudenz als Wissenschaft' (1848); 'Ueber Unsterblichkeit' (1865); 'Aesthetik auf realistischer Grundlage' (1868), and many translations from the great philosophers, including Aristotle, Grotius, Hume, Bacon, Spinoza and Leibnitz. Consult Lasson and Meineke, 'Julius von Kirchmann als Philosoph' (Halle 1885).

KIRCHWEY, George Washington, American writer on legal subjects: b. Detroit, Mich., 3 July 1855. Graduated in law from Yale University, he practised his profession in Albany, N. Y., for 10 years (1882–91), where he was dean of the Albany Law School and professor of law in Union University (1889–91). On leaving Albany he became professor of law in Columbia University (1891–1901), dean of the law school there (1901–10), and Kent professor of law Columbia University (1902–16), warden of Sing Sing Prison (1916). Professor Kirchwey has been president of numerous societies of note, legal and otherwise, among them the American Peace Society, American Society of International Law and the American Institute of Criminal Law and Criminology, and he has contributed extensively to legal, technical and other magazines. At the close of 1918 he was appointed director of the United States Employment Service for New York State. Among his published works are 'Historical Manuscripts of the State of New York' (which he edited, 1887–89); 'Readings in the Law of Real Property' (1900); 'Select Cases and other Authorities on the Law of Mortgage' (1901).

KIRGHIZ, kĭr-gēz', **KIRGHIS,** or **KIRGHIZ-KAZAKS,** a widely-spread nomadic people of Asia, of Turkish-Tartar race, who inhabit the steppes that extend from the lower Volga and the Caspian Sea in the west to the Altai and Thian-Shan Mountains in the east, and from the Sea of Aral in the south to the Tobol on the north. They are divided into hordes, the Great Horde inhabiting both Russian and Chinese territory; the Middle Horde, Siberia, and the Little Horde the Volga-Ural steppes in European Russia. The term Kirghiz, though applied by Europeans to the whole of these peoples, properly belongs only to the Kara-Kirghiz (Black Kirghiz, called also Burúts or Pruts). Those to whom Europeans give the name Kirghiz are called by the Asiatics Kazaks. The Kirghiz-Kazaks speak the Turkish dialect of the Uzbeks. In their physical type they belong to the Mongolian race. They profess the Mohammedan faith, though they do not practise polygamy. They are below the general average of European stature, and are remarkably healthy and vigorous. Their food is chiefly mutton and horse-flesh, with koumiss or fermented mare's milk, from which they extract an intoxicating spirit. Their dwellings consist of a hemispherical tent, the frame of which is of boughs, the covering of felt. Their manufactures are exclusively domestic, and consist of woolen cloths, felts, carpets, hair-ropes, leather, metal ornaments for horse-trappings, knives, etc. They carry on a trade by barter with the Chinese and Russians, exchanging sheep, horses, camels, cattle, wool, skins, etc., for tea, cutlery, silks and other manufactured goods. A considerable portion of the Kirghiz dwell in Chinese territory, for the most part in Turkestan, but the greater number of them are nominally under Russian dominion. Of these European Russia contains some 150,000. Consult Levshin, Alexis, 'Description des hordes et des steppes des Kirghiz-Kazaks' (trans. from the Russian by Ferry de Cigny, 1840); Vambéry, 'Die primitive Kultur des turko-tartarischen Volkes' (Leipzig 1879); Karutz, R., 'Unten Kirgisen und Turkmenen aus dem Leben der Steppe' (Leipzig 1911); Parker, E. H., 'A Thousand Years of the Tartars' (1895).

KIRIN, kē-rēn', the central province of Manchuria and its capital of the same name. The name, which means "Lucky-forest," is in Chinese Ki-lin. Kirin province lies between the Sungari River on the north, the Usuri River and Russia on the east, Korea and Shengking province on the south, and the Sungari River on the west. A part of the country is very mountainous, the elevation rising, in places, to the regions of perpetual snow, but that section of the province which lies within the bend of the river Sungari is level and inclined to be low in places. The highest range of mountains in Kirin is the Shan-a-lín, the upper ranges of which are known as Chang-Peh-Shan, or Ever-white Mountains. These rise, in places, to an elevation of over 10,000 feet, are covered, in their highest peaks, throughout the year with snow, hence their name. In addition to the two important rivers already mentioned Kirin has a third great river, the Hurka, which is inferior only to the Sungari, which, after a long and tortuous course, ultimately reaches the Amur. The Usuri, which is over 500 miles in length, is also a tributary of the Amur. A large part of the province is level and well adapted to agriculture and cattle-raising, but it is not so largely cultivated as the provinces of China. The mountainous regions are still in a state of sylvan wildness and there tigers, mountain cats and various species of wild animals and birds abound, and the rivers and streams in the upland course are abundantly filled with fish. Among the products of the agricultural section of the country are barley; corn, millet, pulse and other grains, potatoes and other root crops, and in the low sections rice, while poppies are grown everywhere. Among the important cities of the province are Kirin, 100,000; Ashiho, 60,000; Petuna, 40,000; San Sing, 30,000; Lalin, 26,000, and Ninguta, 25,000. The capital, Kirin, which lies among the foothills on the shore of the Sungari River, is the most handsome and favorably situated town of the province. It is surrounded by tobacco plantations and upland forests, which furnish it with a very considerable portion of its export trade. The tobacco goes to China, the timber to the regions farther down in the flat country where timber is not so plentiful. Owing to the abundance and excellent quality of the wood in the market the city does an extensive business in the building of boats for river trade; for this reason the Chinese call the city the "Navy Yard" ("Chuen Chang") The neighboring mountains are rich in ore, some of which has been exploited, especially silver, but most of it awaits future development. Kirin is well paved and is one of the cleanest cities in the province. Its many well-

attended squares and small parks give it a decided home-like appearance. Pop. of province 2,000,000.

KIRK, kĕrk, **Edward Norris**, American Congregational clergyman: b. New York, 14 Aug. 1802; d. Boston, 27 March 1874. He was graduated at Princeton (then the College of New Jersey), in 1820, studied law in New York, was graduated from the Princeton Theological Seminary in 1825 and licensed to preach in 1826, was agent for the Board of Foreign Missions in the Middle States, and South Carolina, Georgia and Virginia, in 1829–37 was pastor of the Fourth Presbyterian Church of Albany, N. Y., and while there established with N. S. S. Beman and others the Troy Theological Seminary, the forerunner of the Union Theological Seminary of New York City (q.v.). From 1837–39 he traveled extensively in Europe, becoming upon his return secretary of the Foreign Evangelical Society. From 1842 until his resignation in 1871 he was pastor of the Mount Vernon Congregational Church of Boston. In 1856 at the request of the American and Foreign Christian Union he inaugurated regular worship for American Protestants in Paris. Previous to and during the Civil War he was one of the most outspoken and strongest supporters of anti-slavery. He was president of the American Missionary Association, and published 'Sermons in England and America' (New York 1840); 'Lectures on the Parables of Our Saviour' (New York 1856); 'Discourses, Doctrinal and Practical' (Boston 1860), and many other single sermons and addresses. He also translated and edited with introductions S, R. L. Gaussen's 'Theopneusty, or the Plenary Inspiration of the Holy Scripture' (New York 1842); the same writer's 'Canon of the Holy Scriptures' (Boston 1862), and J. F. Astié's 'Louis XIV and the Writers of His Age.' His 'Lectures on Revivals' were collected and edited by D. O. Mears (Boston 1874). Consult Mears, D. O., 'Life of E. N. Kirk' (Boston 1877), and other writings.

KIRKBRIDE, Thomas Story, American physician: b. near Morrisville, Bucks County, Pa., 31 July 1809; d. Philadelphia, 16 Dec. 1883. His ancestors, who had come to this country with William Penn, were, like himself, members of the Society of Friends. He received the degree of M.D. from the University of Pennsylvania in 1832, and was appointed resident physician of the Friends' insane asylum at Frankfort, Pa. A year later he was elected resident physician of the Pennsylvania hospital, in which he continued two years, when he began general practice in Philadelphia. In January 1841 he became superintendent and physician-in-chief of the Pennsylvania Hospital for the Insane, then first opened, and continued in that office till his death. He was one of the most active members, and successively secretary, vice-president and president of the Association of Medical Superintendents of American Institutions for the Insane. He published 'Rules and Regulations of the Pennsylvania Hospital for the Insane' (1850), which has been a textbook and guide in the regulations of new hospitals, and a work 'On the Construction, Organization and General Arrangements of Hospitals for the Insane' (Philadelphia 1854, enlarged 1880). In 1853 he proposed the erection of a new hospital, and the separation of the sexes in two distinct buildings, and was the first superintendent in the United States to carry such an arrangement into effect. In many other respects he was in the fore-rank of American alienists, holding advanced views in regard to the medical and hygienic treatment of insane persons. He was one of the most ardent and successful fighters for more humane and rational treatment of such sufferers and much of the admirable conditions now existing in public institutions for the insane is due to his efforts and initiative. Consult Anon., 'A Memorial of T. S. Kirkbride, M. D.' (in Pennsylvania Hospital of the Insane, Report for the Year 1883, p. 26, Philadelphia 1884); Curwen, J., 'Thomas S. Kirkbride' (in Proceedings, American Philosophical Society, Vol. XXII, p. 217, Philadelphia 1885).

KIRKCALDY, Sir William, Scottish leader, politician and adventurer: b. 1520; d. 1573. He had a very checkered and unsavory career. Faithlessness to party and principles, treachery, intrigue and murder formed a distinctive feature of his life, and to him nothing that stood in the way of his ambition seems to have been sacred. He took part in the murder of Cardinal Beaton at Saint Andrews (1546). He served as secret agent for Edward VI of England in France and elsewhere for several years, but later on he took up the cause of the king of France. On his return to Scotland he became prominent as an ultra-Protestant leader, and as such took part in the murder of Rizzio, the favorite of Mary Queen of Scots. Then turning his arms and his influence against the latter queen he contributed powerfully to her defeat at Langside. But finding Protestantism not altogether conducive to his ambitious schemes, he deserted the Protestant party and took up the cause of Mary Queen of Scots. The latter step led to his own downfall. The English government sent a powerful force against him, and the Regent Morton, seconding the efforts of the latter, defeated Kirkcaldy and forced him to retreat to his strongly fortified castle. There, after standing a siege for some time, he was captured and later on he was hanged. Playing false with friends and enemies alike, he finally found himself without friends. John Knox, with whom he had been hand in glove in the days of his ultra-Protestant attitude, later on denounced him as a traitor, murderer and cut-throat. Consult any good history of Scotland or life of Mary Queen of Scots.

KIRKCALDY, kĕr-kâ'dĭ, a seaport town in Fifeshire, Scotland. It is situated on the Firth of Forth, north of Edinburgh. It has excellent and extensive harbor and wet dock facilities and a large maritime trade, both coast and overseas. Its vessels do a direct trade with New York, Canada and parts of Central America. So important is this foreign trade of Kirkcaldy that the United States is represented there by a consular agent who has been instrumental in increasing the extent of trade between American ports and Kirkcaldy. It is an old town, having been in existence in the 12th century, and a place of some considerable importance by the middle of the 15th. It is a long, straggling town, which has been built up

considerably of late, but it is still known as the long town, on account of its covering close upon five miles in length, largely along the water-front. It has numerous fine buildings, and is supplied with libraries, schools and all other facilities for education. Its imports are large and varied, while its exports include coal, coke and patent fuel. Its local industries consist largely in the making of linen and other kinds of yarns, linoleum, carpets and machinery. Pop. 43,000.

KIRKDALE CAVE, in Yorkshire, England, 28 miles west of Scarborough, is famous for the numerous remains of Tertiary mammals. It was discovered in 1821, in the cutting back of an oölitic limestone rock in which it is situated. Its greatest length is 245 feet. The fossil bones are contained in a deposit of mud that lies on the floor of the cave. The remains of the following animals have been discovered: Hyena, tiger, bear, wolf, weasel, elephant, rhinoceros, hippopotamus, horse, ox, deer, hare, rabbit, water-rat, raven, pigeon, lark and duck.

KIRKE, Sir David, English adventurer: b. Dieppe, France, 1597; d. Ferryland, Newfoundland, 1656. The "merchant adventurers" of London were at the beginning of his life a powerful body of associated privateers, and his father, Geryase Kirke, a dealer in French wine, who had left France to escape from the perils of the religious wars, joined the adventurers and projected with Sir William Alexander a plan for capturing New France and colonizing Nova Scotia. They obtained letters of marque and a monopoly of the fur trade, and David Kirke sailed in 1627 as commodore of three privateers, his brothers, Lewis and Thomas, being each in command of one. Off Quebec they captured 20 French ships with cargoes and passengers. In 1629 he captured another vessel and compelled Champlain to surrender Quebec. In the meantime peace had been made with France, the captured territory was restored, but Kirke was knighted for his services. He seemed doomed to disappointed ambition to the end, for Cromwell's council revoked, after the execution of Charles I, the grant of all Newfoundland made to Kirke in 1637 by the king, although the adventurer eventually recovered most of the lands thus confiscated. Consult Kirke, H., 'The First English Conquest of Canada' (London 1871).

KIRKLAND, Caroline Matilda Stansbury, American author: b. New York, 12 Jan. 1801; d. there, 6 April 1864. In 1827 she married William Kirkland, a professor in Hamilton College, Clinton, N. Y., removing with him to Michigan in 1839. She lived for a few years a pioneer life and her experiences furnished the basis of her earlier books published under the pseudonym, "Mary Clavers." These include 'A New Home; Who'll Follow?' her best work (1839); 'Forest Life' (1844), and 'Western Clearings' (1846). In 1842 she made her home in New York, where she established a boarding school for girls and contributed frequently to periodicals. Among her later works are 'The Helping Hand' (1853); 'Memoirs of Washington' (1857); 'The Destiny of Our Country' (1864).

KIRKLAND, James Hampton, American educator: b. Spartanburg, S. C., 9 Sept. 1859. He was graduated from Wofford College (Spartanburg, S. C.) in 1877, was assistant professor of Latin and Greek there in 1881–82, and professor of Latin and German in 1882–83. After European study (1883–86), he was professor of Latin in Vanderbilt University (Nashville, Tenn.) in 1886–93, and in 1893 became chancellor and professor of Latin language and literature. He has written several monographs, and published a 'Study of the Anglo-Saxon Poem called by Grein "Die Höllenfahrt Christi"' (1885), and an edition of the 'Satires and Epistles of Horace' (1893). Since 1893 he has made many contributions to educational journals, and has filled positions in numerous educational societies. For 14 years he was secretary of the Southern Association of Colleges and High Schools; in 1911 president of the Religious Education Association; in 1914 president of the Classical Association of the Middle West and South. He was a member of the Southern Education Board and is at present connected with many educational movements and organizations. He has received the degree of D.C.L. from the University of the South, and LL.D. from the Universities of North Carolina, Pittsburgh, Missouri and from Wesleyan University.

KIRKLAND, John Thornton, American Unitarian clergyman and college president: b. Little Falls, N. Y., 1770; d. Boston, 26 April 1840. He was the son of Samuel Kirkland (q.v.), was graduated at Harvard College in 1789, and ordained pastor of the Congregational (Unitarian) Church in Summer Street, Boston, in 1794, where he remained till elected president of Harvard College in 1810. He held this office until 1828. His 'Life of Fisher Ames' (1809) is perhaps the most valuable of the several biographies of which he was the author, and his 'Eulogy of General Washington' was much admired. He exerted a very great influence during his life, by the force of his intellect and character, and during his presidency the college flourished, both in its internal condition and in its external relations.

KIRKLAND, Joseph, American novelist: b. Geneva, N. Y., 7 Jan. 1830; d. Chicago, 1894. He was a son of Caroline Kirkland (q.v.), was educated in the schools of Michigan, resided with his parents in New York, making his home in Illinois after 1856. During the Civil War he served in the Federal army, attaining the rank of major, and after engaging in coal mining in Illinois and Indiana for a time, practised law in Chicago. He published 'Zury, the Meanest Man in Spring County' (1887), a faithful story of the beginning of pioneer life in Illinois; 'The McVeys' (1888); 'The Captain of Company K' appeared in 1891; 'The Chicago Massacre of 1812' (1893); 'The Story of Chicago' (1892–94; rev. ed., 1904).

KIRKLAND, Samuel, American missionary to the Indians: b. Norwich, Conn., 1741; d. 1808. He was graduated at Princeton 1765. He had previously visited the Senecas, for the purpose of studying their language. In 1766 he was ordained, and sent by the Congregational Church to preach to the Indians. After living among the Senecas for a year and a half he went to the Oneidas, whom he considered to be the highest type of the Iroquois. During

the Revolution he persuaded the Oneidas and Tuscaroras, who were bent on taking one side or other, to join the Americans, instead of the British. He saw considerable war service as military chaplain, especially with General Sullivan on the Susquehanna, in 1779. In 1793 he founded the Hamilton Oneida Academy for the education of Indian boys. This is now known as Hamilton College. In 1794 the Indians made complaints concerning his administration, and he published a vindication, which with his letters and journals, furnishes a unique picture of life among the Iroquois. Consult Lothrop, 'Life of Samuel Kirkland' (1848).

KIRKMAN, Marshall Monroe, American railway official: b. Illinois, 10 July 1842. He entered the railway service of the Chicago and Northwestern Line in 1856, held various posts in different departments, was comptroller in 1881–89, and in 1889 became second vice-president. He has been a constant writer on railway subjects since 1877. His chief works are 'The Science of Railways' (1894; revised and republished in 17 volumes 1909); 'The Classical Portfolio of Primitive Carriers' (1896); 'The Air Brake' (1901); 'Building and Repairing Railways' (1901); 'The Romance of Gilbert Holmes' (1900); 'Iskander' (1903); 'The Alexandrian Novels' (3 vols., 1909); 'History of Alexander the Great' (1913).

KIRKPATRICK, Alexander Francis, English clergyman and educator: b. Lewes, Sussex, 25 June 1849. He was educated at Trinity College, Cambridge, and elected one of its Fellows in 1871. He was ordained deacon in 1874 and priest in 1875. He was assistant tutor in Trinity College, 1871–82; also junior dean, 1876–82; regius professor of Hebrew and at the same time canon of Ely 1882–1903; honorary canon of Ely and Lady Margaret Professor of Divinity, 1903–06; master of Selwyn College, Cambridge University, 1898–1907; dean of Ely since 1907. He is the editor of the Old Testament and apocryphal volumes of 'The Cambridge Bible for Schools and Colleges.' To this series he contributed 'The First Book of Samuel' (1880); 'The Second Book of Samuel' (1881); 'The Book of the Psalms' (3 vols., 1890–1901). He is also the author of 'Divine Library of the Old Testament' (1891; new ed. 1914); the 'Doctrine of the Prophets,' the Warburtonian Lectures for 1886–1890 (1892; 3d ed., 1912).

KIRKSVILLE, kėrks'vĭl, Mo., city and county-seat of Adair County, on the Omaha and Kansas City and the Wabash railroads, 204 miles northwest of Saint Louis. It was first settled in 1840, and adopted the commission form of government in 1914. There is a normal school here, court-house, public library and numerous churches. It is the seat of the original school of osteopathy. It lies in the centre of an extensive agricultural district and has coal mines and manufactures of iron, wagons, carriages, shoes, etc. The waterworks are the property of the municipality. Pop. 6,347.

KIRKUP, kėrk'ŭp, **Thomas,** English writer on economical and social subjects: b. 1844; d. 1912. Educated at the universities of Edinburgh, Berlin, Paris, Göttingen, Tübingen and Geneva, he entered literature and gave much attention to the study of socialism and to other subjects and social movements of the latter half of the 19th century and the first decade of the present. History and economics, especially their modern phases, occupied much of his attention. On all of these subjects he contributed extensively to various works of reference, especially to 'Chambers' Encyclopædia' and the 'Encyclopædia Britannica.' Among his published works are 'An Inquiry into Socialism' (1887); 'History of Socialism' (1892); 'South Africa, Old and New' (1903); 'Progress and the Fiscal Problem' (1905); 'Primer of Socialism' (1908).

KIRKWALL, kėrk'wal, capital of the Orkney Islands. It is a seaport and has an extensive import and export trade and regular steamship communication with all the important ports of Scotland and England and with Leith, Aberdeen and Berwick, ports of the Shetland Islands. It imports timber, flour and other articles of food and exports principally herrings, the fishing of which forms the occupation of most of the coast people. Kirkwall is quite an old city and has numerous ruins of ancient places that played a part in its past history. It is first mentioned in the 10th century and it was made a royal burg in 1486. Its fine old Norman-Gothic cathedral dates back to the first half of the 12th century. Pop. about 4,000.

KIRKWOOD, kėrk'wŭd, **Samuel Jordan,** American political leader: b. Hartford County, Md., 20 Dec. 1813; d. Iowa City, Iowa, 1 Sept. 1894. Having removed to Richland County, Ohio, in 1835, he studied law, was admitted to the bar in 1843, in 1845–49 was prosecuting attorney of the county, and in 1850–51 a member of the State Constitutional Convention. In 1855 he established himself in milling and farming in Iowa, the next year was a member of the State Senate and in 1860–64 Republican governor of Iowa. During the Civil War he levied 48 regiments of volunteers and equipped them at $500,000 less than the usual cost. He was United States Senator in 1865–67 (completing the unexpired term of James Harlan, resigned), was again elected governor of Iowa in 1875, in 1877–81 was a member of the Senate, and from 5 March 1881 to 6 April 1882, when he resigned, was Secretary of the Interior in Garfield's Cabinet. He then withdrew from political life.

KIRMESS. See KERMESS.

KIRSCH, Johann Peter, German ecclesiastic and author: b. Dippach, Luxemburg, 3 Nov. 1861. He received his education at the Luxemburg Seminary, the Campo Santo Tedesco and the Vatican Archives Palæographic School, Rome. In 1884 he was ordained priest of the Roman Catholic Church and in 1888–90 was director of the Historical Institute of the Görres Society. Since 1890 he has been professor of pathology and Christian archæology at the University of Fribourg, Switzerland. He has published 'Die christlichen Culturgebäude im Alterthum' (1893); 'Die päpstlichen Kollektorien in Deutschland während des 14. Jahrhundert' (1894); 'Die Finanzverwaltung des Kardinalkollegiums im 13. und 14. Jahrhundert' (1895); 'Die Akklamationen und Gebete der altchristlichen Grabschriften' (1897); 'Die christliche Epigraphik und deren Bedentung für die kirchengeschichtliche Forschung' (1898); 'Lehre von der Gemeinschaft

der Heiligen im christlichen Altertum' (1900; English trans., by J. R. McKee, 1910); 'Illustrierte Geschicte der katholischen Kirche' (Part I, 1905); 'Die Geschichte der Kirche, ein Zeugnis ihrer höheren Sendung' (1912); and 'Die Frauen des Altertums' (1912). He collaborated in other historical works, notably with Ehrhard in 'Forschungen zur christlichen Literatur- und Dogmen-geschichte' and with Büchi in *Zeitschrift* für Schweizerische Kirchengeschichte, and contributed several articles to 'The Catholic Encyclopedia.'

KIRSCH, or KIRSCHWASSER, kĕrsh'-väs'ĕr, a liquor in general use in Germany. It is made from cherries, hence its name which signifies literally "cherry water." It is a distilled liquor and is made chiefly in the Black Forest and in Switzerland. In English-speaking countries kirschwasser is frequently called cherry-brandy. This is really what it is; but it must be distinguished from the ordinary cherry brandy which is made from a mixture of the juice of cherries and ordinary brandy.

KIRSCHNER, kĕrsh'nĕr, **Lola (Aloysia),** Austrian novelist: b. Prague, 1854. She wrote very much under the pseudonym of Ossip Schubin, a name by which she is still generally better known to the reading public of her works than by her own. Her nom-de-plume she took from 'Helena,' a novel by Turgeneff. She came of good family and was privately educated by excellent tutors at home, at Lockov. She traveled extensively and frequented the capitals of Europe where the fashionable sets of the various nations were and still are accustomed to meet. This society in Berlin, Brussels, Paris and Rome attracted her irresistibly and she set herself to study it. She soon began to reproduce it in works of vivid presentation and truth of characterization. She is especially severe on the military and ruling classes of Austria which she depicts with great detail intermingled with biting sarcasm. All her works show great talent; but they are too often marred by haste and want of care in details. Among her published works are 'Ehre' (1882); 'Die Geschichte eines Genies' (1884); 'Unter Uns' (1884); 'Gloria Victis' (1885); 'Erlachhof' (1887); 'Es fiel ein Reif in der Frühlingsnacht' (1888); 'Ausbein aus dem Leben eines Virtuosen' (1888); 'Boris Lensky' (1889); 'Unheimliche Geschichten' (1889); 'O du mein Oesterreich' (1890); 'Finis Poloniæ' (1893); 'Toter Frühling' (1893); 'Gebrochene Flügel' (1894); 'Die Heimkehr' (1897); 'Slawische Liebe' (1900); 'Marska' (1902); 'Refugium Pecatorum' (1903); 'Der Gnadenschuss' (1905); 'Der arme Nicki' (1906); 'Primavera' (1908); 'Miserere nobis' (1910).

KIRTLAND, kĕrt'land, **Jared Potter,** American physician and educator: b. Wallingford, Conn., 10 Nov. 1793; d. Cleveland, Ohio, 10 Dec. 1877. He studied in the medical department of the University of Pennsylvania and was graduated from that of Yale in 1815; practised at Wallingford (1815–18) and Durham (1818–23), Conn., from 1823 at Poland, Ohio; in 1829–32 and 1834–35 was a member of the Ohio Legislature; and was professor of the theory and practice of medicine in the Ohio Medical College (Cincinnati) in 1837–42. In 1843 he assisted in founding the medical department of the Western Reserve University, where he was professor of the theory and practice of medicine in 1843–64. He assisted in founding and became president (1845) of the Cincinnati Academy of Sciences, from 1865 the Kirtland Society of Natural History. His zoological studies are of great importance. He discovered parthenogenesis in insects and the distinction of sex in the species *Unionidæ*.

KIRWAN, kĕr'wăn, **Richard,** Irish writer and scientist: b. Cloughballymore, County Galway, 1733; d. 1812. Educated in France by the Jesuits he was graduated in law and began the practice of his profession, which he soon largely neglected for the study of the natural sciences, for which he had shown special aptitude while in college. He was one of the first great and accurate students in English of mineralogy and the composition of acids. He also gave considerable attention to scientific agriculture. He was looked upon, in his day, as one of the greatest of scientific thinkers and honors came to him from many quarters. He was elected a member of the Royal Society in 1780 and of the Royal Dublin Society, both of which societies presented him with gold medals for brilliant work done in connection with them. He had a very wide range of acquaintances among the scientific and learned of Europe, with all of whom he was very popular on account of his great learning, his ability for consecutive and careful thought and his genuine Irish wit and good humor. Among his writings which cover a wide range of subjects, all of which are handled in a truly scientific manner, are 'Elements of Mineralogy' (1784); 'Essay on Phlogiston and the Composition of Acids' (1787); 'Temperatures of Different Latitudes' (1787); 'Geological Essays' (1799); 'The Analysis of Mineral Waters' (1799); 'Logick' (1807); and 'Metaphysical Essays' (1811).

KIRYU, kĕr'yoo', a Japanese city in the prefecture of Gumma. It lies north by northwest of Tokio, by which it is connected by rail over a distance of some 80 miles. It has a very considerable local trade, has been growing steadily of late and produces extensive quantities of excellent silk, for the manufacture of which and of satin it has large mills fitted with the latest modern machinery. Kiryu is one of the most progressive of the smaller cities of Japan. Pop. about 40,000.

KISER, kī-zĕr, **Samuel Ellsworth,** American journalist and author: b. Shippensville, Pa., 2 Feb. 1862. During the Civil War was taken by his mother to Washington, D. C., where his father, a soldier, was stationed for brief period. He entered journalism in Cleveland, later engaged in editorial work in Chicago and has been a regular contributor since 1900 to magazines and newspapers. He is also a lecturer and advertising specialist. He published 'Budd Wilkins' (1898); 'Georgie' (1900); 'Love Sonnets of an Office Boy' (1902); 'Ballads of the Busy Days' (1905); 'Charles the Chauffeur' (1905); 'The Whole Glad Year' (1911); 'The Land of Little Care' (1912).

KISFALUDY, kĭsh'fŏ-lŭ-dĭ, **Alexander (Sandor),** Hungarian poet and dramatist: b.

Sumeg, Zala County, 27 Sept. 1772; d. in his native town, 28 Oct. 1844. He was an elder brother of Karoly Kisfaludy (q.v.) and with him exercised a notable influence upon Hungarian literature and language. Coming of a good family he received an excellent education at Raab and Pressburg; and on graduation entered the Austrian army where he proved a very active and efficient soldier during several campaigns, in one of which he was made prisoner and remained in captivity for some time in Provence. This captivity brought him into contact with Western literature and gave him a new view of literary life. On his return to Hungary he at once began devoting all his attention to literature; and he soon met with flattering success. As the elder brother, to him fell the paternal estate, which he continued to make his home and where he led the life of a country gentleman. His literary genius lay, not, like that of his brother, in drama and comedy, but in lyrical poetry. Curiously enough he was the same age (29) as his brother when he appeared before the public with a serious literary effort, which in his case was 'Himfy's Loves' ('Himfy szerelmei'). His first effort was met with general approbation, and he awoke one morning to find that he had literally become famous over night. His poem was read and recited everywhere and by everyone in middle and upper class society in Hungary. This was followed in 1807 by a continuation of the poem now generally known as the second part of 'Himfy's Loves,' which was also well received by the public. This was followed, in the same year, by 'Legends of the Olden Time in Hungary' ('Regek a magyar eloidobol'); 'Julia's Love' ('Gyula szereme'); and his historical dramas, mostly tragedies, of which the most noteworthy are 'Hunyadi Janos' and 'Kun Laszlo.' Many of his works have been translated into German, and some of them from this latter language into French, English and other of the languages of Europe. Both Gaal and Machik have turned his 'Legends of the Olden Time' into German; and 'Julia's Love' has also been translated into German by Gebell-Ennisburg. An excellent edition of Kisfaludy's works appeared in Budapest in 1892.

KISFALUDY, Charles (Karoly), Hungarian poet and dramatist: b. Tet, 5 Feb. 1788; d. Pest, 21 Nov. 1830. A brother of Sandor Kisfaludy (q.v.), he early showed the family bent for literature and its talent for imaginative thinking and description. After some time spent in literary preparation he went to Pest in 1817 and there began turning out, with wonderful rapidity, work covering almost every field of literary endeavor, until he soon placed himself in the fore rank of poets and dramatists in his own country. He became by far the most popular of the Hungarian dramatists of his day; and he made of comedy a feature of the Hungarian stage to such an extent that he is to-day looked upon as the founder of the Hungarian drama. Many of his comedies have been translated into German, French and other European languages. He also wrote tragedies which are only slightly inferior to his comedies, but superior to the work of his contemporaries. The best of his tragedies is 'Irene'; and of his comedies are 'The Murderer' and 'The Suitors.' He also wrote good poems and excellent short stories and longer tales and talented humorous pictures of Hungarian life. His efforts in this direction created a school of younger writers who, if they did not equal the work of their master, at least helped to make the literature of the country imaginative and truthful to life. But his services in the development of the Hungarian theatre surpass all his other efforts and have justly made him one of the foremost figures in Hungarian literary life. The Kisfaludy Society, founded in honor of him and his brother, to promote the interests of Hungarian literature, has recognized, to the full, his literary services and has made his work well known, not only at home but in foreign countries. Consult Bánóczi, for his life and works (Budapest 1882); Gaal, 'Theater der Magyaren' (a translation of the best of his dramatic works, Bonn 1820); Hornyánszky, J., 'Irene' (translated into German, 1868). One of the best collections of his works is that published by Bánóczi at Budapest in 1893. Previous to this six other editions had already been published, and several complete or partial editions have been issued since then.

KISH, Dynasty of (4401 to 3815 B.C.), the second of the Babylonian dynasties of the Sumerian rulers. It followed the Opis dynasty, which appeared in the north of Arabia, and east of the Tigris, and counted six known rulers. The Kish dynasty arose in the east of Babylonia superseding the Opis rulers; and the sovereigns appear to have been both temporal and spiritual rulers, that is, they were both high priests and kings; and it seems probable that, at this time in the history of Babylonia, belief was held that the sovereigns were of divine origin and hence the representatives of the gods, or at least the chief of the deity upon earth. That the Kish sovereigns played an important rôle in Babylonia in their day is evident from their written records which have survived the ravages of time. These are comparatively plentiful. They show that the dynasty consisted of at least eight rulers designated as follows: Azag Bau, who is said to have been a woman and to have reigned 100 years; Basha Enzu, 25 years; Ur Zamama, 6 years; Zimudar, 30 years; Uziwidar, 6 years; Elmuti, 11 years; Igu Babbar, 11 years; Naniyachi, 3 years; a total of only 192 years, more than half of which time is occupied by the reign of one sovereign out of the eight. Yet the total length of the duration of the dynasty is given as 586 years. Undoubtedly the first sovereign, Azag Bau, is either altogether traditional, or is the family or tribal name of a number of sovereigns. Even at this early period in their history the Sumerian people gave every evidence of having been highly advanced in civilization. They had their own peculiar system of writing which was quite different from that of the Semitic races, by whom they were surrounded then or at a later date. From the nature of the existing records of the Kish dynasty it seems probable that they recount the deeds of the more prominent of the rulers of the Sumerians at this comparatively early period in their national existence. The records give lists of other rulers who flourished on or about the same time as the kings

of the Kish dynasty; but, so far, there seems to be no reason for supposing that they belonged to the dynasty itself; but rather that they were rulers of adjacent territory over which they held independent sovereignty. Probably further discoveries of records and the decipherment thereof may bring to light more definite and detailed information relative to the Kish rulers, those ancient Asiatic sovereigns who appear upon the sun-line of the horizon of semi-mythical history, behind which even the brightest tradition grows cloudy. See EGYPT, *History*.

KISHINEFF, kĕsh-ę-nĕf', Russia, the capital of the government of Bessarabia, 86 miles northwest of Odessa, on the Byk, an affluent of the Dniester. It is a bishop's see, is well laid out on a picturesque site, and among its educational institutions are a seminary for priests, two gymnasia, a public library and botanic garden. The grapevine, plums and tobacco are cultivated in the vicinity; it has manufactures of flour and woolens, candle and soap works, and a considerable commerce with the East. Kishineff arose around the monastery of Kishnosaref in the 15th century. During the 18th century it was subjected to attacks from the Turks and in 1812 was annexed by Russia. It came into world-wide prominence in 1903 owing to a shocking massacre of Jews on the Russian Easter and succeeding days. Pop. 128,200, consisting of Russians, Moldavians, Jews, Bulgarians, Wallachians and Tartars.

KISHON, kī'shŏn, the biblical name of a river in Palestine. It is called El-Mukatta by the modern Arabs. It rises on Mount Gilboa, and pursues a northwesterly course through the plain of Esdraeldon, and empties into the Bay of Acre. Here Elijah slaughtered the priests of Baal, and Deborah and Barak defeated Sisera. The French and Turks fought a battle on its banks in 1799.

KISS, kĭs, **August**, German sculptor: b. near Ples, 11 Oct. 1802; d. Berlin, 24 March 1865. Educated to his profession in Berlin, he soon showed, after graduation, considerable originality which one of his teachers, Rauch, had early discovered in him. His first notable work, 'A Mounted Amazon attacked by a Tiger,' was produced for Louis I of Bavaria (1842), in marble and afterward cast in bronze by the noted founder, Fischer, for the portico of the Berlin Museum, where it still forms one of the notable and attractive features of the art treasure of the German capital. Kiss made a very careful study of animals at rest and in action and was able to seize, in a notable manner, the striking features of animal life and to couple them with infinite and carefully wrought-out details. These and other qualities, especially dramatic action and clever grouping, which distinguish all his work, are especially present in this, his first great effort, which is, by the general concensus of opinion, looked upon as the best expression of his ideals, his planning and his execution. Kiss made numerous statues, all executed on a high plane, some of them of notable persons and others of them developing some incident or scene. Among the most notable of his works are 'Equestrian Statue of Frederick the Great' (1847, at Breslau); one statue of Frederick William II at Potsdam, and another at Königsberg; 'Saint Michael Fighting the Dragon' (Babelsberg Castle); 'Saint George Slaying the Dragon' (in the courtyard of the Schlosshof, Berlin); 'Faith, Hope and Charity' (marble group, National Gallery, Berlin); six fine bronze statues of Prussian generals (Wilhelms Platz, Berlin).

KISS, kĭsh, **Josef**, Hungarian Jewish poet: b. Temesvar, 1843. His name was originally Klein. His poems which deal principally with Jewish life, legend and history are often mingled with Magyar life, customs and traditions. His work is of two distinct kinds, religious and non-religious. His general popularity, which grew from year to year, was acquired, for the most part, from his non-religious writings, while he gained an added hold on the deeply-religious Jews of Hungary through his religious poems. He wrote lyrical, narrative and descriptive poems and excellent ballads and hymns. His first volume of lyrics, though displaying considerable power, attracted little attention because the author had not as yet acquired the individuality of style and subject matter which afterward was to distinguish him from the other writers of Hungary. He owes his popularity more to his ballads than to any other of his literary efforts, because of their life and his individualistic manner of treatment of his subjects. He has published a volume of 'Poems' (1868); 'Lyrics' (1878), and 'Religious Poems' (1888). But between times he contributed to the local press and especially to the Jewish organs poems covering a wide range of subjects and a notable variety of treatment. Later on many of his literary efforts were published in *The Week* (*A hét*), of which he became editor in 1890. In 1913, this date being the 70th anniversity of his birth, he was made honorary member of the Hungarian Society of Science and special festivities were held in his honor throughout the cities of Hungary.

KISS. See SALUTATION.

KISSIMMEE, Fla., city and county-seat of Osceola County, on Tohopekaliga Lake, on the Atlantic Coast Line, 18 miles south of Orlando. It has extensive fruit and vegetable interests and is well known as a hunting and fishing resort. The headquarters of the cattle raising industry of the State are here. The waterworks and lighting plants are the property of the municipality. Pop. 2,157.

KISSING-BUG. See CONE-NOSE.

KISSINGEN, kĭs'ĭng-ĕn, Bavaria, a celebrated watering-place on the Saale, 43 miles north of Würzburg by rail. It is surrounded by walls flanked with towers, and has a magnificent bathing establishment. The springs, celebrated from the 9th century, are five in number, and all saline, contain a large quantity of carbonic acid gas, are used both internally and as baths, and are considered efficacious in gout and affections of the stomach and chest. Besides 30,000 visitors annually attracted by the baths, great quantities are bottled for export. Pop. about 5,000.

KISTNA, India, a river which separates the Deccan from southern India. It rises among the Western Ghâts, 4,500 feet above sea-level, in the province of Bijapur, 42 miles

from the Malabar coast, passes through Haidarabad, where it receives the Bhema on its left, and the Tungabudra on its right bank, both flowing, like it, from the Western Ghâts. Previous to the junction it is commonly called the Krishna, a name which is frequently given to the whole river. The united river falls into the Bay of Bengal. Its course is estimated at 700 miles. A canal 90 miles long connects it with the Godavari River, and numerous channels make its waters available for irrigation purposes. The Kistna is, perhaps, richer in gems than any other river of India. In the dry season, diamonds, cat's eyes, onyxes and chalcedonies are found along its course as well as minute portions of gold.

KIT, originally that which contained tools or necessaries; hence the tools or necessaries themselves. The term, which was probably derived from the Dutch, "kit" or Middle Dutch "kittie," a large bottle, beaker or decanter, has to-day various significations, among them a large bottle, wooden tub for milk, fish, butter and other household articles, a soldier's kit, a sailor's chest and contents and a shoemaker's kit; and is also used in the sense of the whole outfit, the whole amount, the whole company, as in the expression "the whole kit of them." Used in this way it is often employed in a deprecatory sense. As a military term kit generally signifies the more intimately related articles of a soldier such as shoes, boots, socks, shirts, undershirts, brushes, combs. The soldier's kit weighs from 50 pounds upward, the weight depending upon whether the soldier is under ordinary or heavy marching orders. The heavy marching outfit of the British infantry soldier is a knapsack containing shirts, extra uniform, boots, socks, brushes and a few other personal articles, mess tin, bread, rations for a certain time, generally of short duration, coat, cap, rifle, bayonet, ammunition and cartridge belt. This outfit, however, varies, according to the work for which a detachment of troops is destined for the moment. The German, Austrian and Italian soldiers are often more heavily laden than the British, they being frequently required to carry a part of a tent, and a great coat. The German, too, carried, before the outbreak of the European War, a ground sheet. But the latter war has tended to considerably change the kit of the infantry soldier under heavy marching orders and to make it somewhat more variable than it was formerly.

KIT-CAT CLUB, a club formed in London about 1688, originally for convivial purposes, but which soon assumed a political character, having in the reign of Queen Anne become the resort of Marlborough, Walpole, Addison, Steele and other leading Whigs. Its founder was Jacob Touson, the eminent publisher, and its name was derived from that of Christopher Cat, who supplied the club with mutton-pies. It was originally composed of 39 members, later enlarged to 48. The portraits (about three-quarters length) of the members were painted by Sir Godfrey Kneller, and hence a portrait of this length is called a "kit-cat." The club was dissolved about 1720.

KIT-FOX, or SWIFT-FOX, a small fox (*Vulpes velox*) found in the central and northwestern parts of the United States, and especially common in the upper Columbia River region. It is about 20 inches long, with a broad, short face, and has the soles of the feet densely hairy. In summer its fur is of a brownish gray color, tinged with orange on the flanks and white below; in winter it becomes much paler. It is especially noted for its activity, and for the deep burrows which it digs, and in which its young are born and nurtured. It feeds mainly on ground squirrels and small birds.

KITCHEN CABINET, a popular name applied to certain intimate political friends of President Andrew Jackson, who were supposed to have more influence over his actions than his official advisers. They were Gen. Duff Green, editor of the *United States Telegraph* at Washington, the confidential organ of the administration; Maj. William B. Lewis, of Nashville, Tenn., second auditor of the Treasury; Isaac Hill, editor of the *New Hampshire Patriot,* and Amos Kendall (q.v.) of Kentucky. He was leader of the kitchen cabinet; worked for the Jackson "second choice" movement in Kentucky; and received the office of fourth auditor of the Treasury. He was a man of exceeding ability, but of low moral perceptions, and, as a politician, was the incarnation of the worst evils of the American system. Harriet Martineau wrote of him, "I was fortunate enough once to catch a glimpse of the invisible Amos Kendall, one of the most remarkable men in America. He is supposed to be the moving spring of the whole administration." Consult Parton, James, 'The Life of Andrew Jackson' (Vol. III, New York 1860).

KITCHEN-MIDDENS, or **KJÖKKEN-MÖDDINGS,** mounds of shells, bones, charcoal and refuse, remaining upon the site of prehistoric settlements along the coasts of seas, lakes and rivers in many parts of the world. The exploration of them has brought to light many relics of the Palæolithic and Neolithic men who formed them, and contributed greatly to the knowledge of prehistoric archæology. Extensive deposits of this kind occur in various parts of the United States, where they are known as shell-heaps (q.v.); and their formation is going on wherever savage conditions still exist.

KITCHENER, kĭch'ĕ-nĕr, **Horatio Herbert,** 1st Earl Kitchener of Khartoum and of Broome, British soldier: b. Crotter House, Ballylongford, County Kelly, Ireland, 24 June 1850; drowned west of the Orkney Islands, Scotland, 5 June 1916. Though of Irish birth, he was of English descent, his father being Lieut.-Col. H. H. Kitchener, of the 13th Dragoons. He was educated at the Royal Military Academy, Woolwich, and received his commission in the Royal Engineers on 4 Jan. 1871. Between the time of his entering the military academy and receiving his commission he had seen service in the Franco-German War. He was at Dinan when war broke out, offered his services to the French authorities and served as a private in the Second Army of the Loire under the command of General Chanzy. As a subaltern Kitchener was mainly employed on survey work in Palestine and Cyprus. The whole of the survey of Galilee for the Palestine Exploration Fund's map was executed by him. He was employed from 1882-92 in assisting in

the reorganization of the Egyptian army, and in 1892 became sirdar or commander-in-chief. The next four years were spent in preparations for the reconquest of the Soudan, and in 1896 he began operations against the Khalifa, whose forces he defeated at Firket. The result of this engagement was the recovery of the province of Dongola. In 1898 he again defeated the Khalifa's forces at Atbara. Kitchener had learned well the lessons of warfare in Egypt and behind each advance constructed a railroad. On 2 September of that year the Khalifa's forces were utterly deated at Omdurman and two days after the battle Kitchener entered Khartoum. For these services Kitchener was raised to the peerage as Baron Kitchener of Khartoum. A remarkable feature in the conquests was the economy with which the three campaigns from 1896-98 were conducted, the total cost exceeding little more than $12,000,000.

Then occurred an episode that might have led to war between England and France, when a French officer, Colonel Marchand, with a small force of Senegalese soldiers, established themselves at Fashoda, on the White Nile, 600 miles above Khartoum on territory claimed for Egypt. Kitchener met the situation very tactfully; he visited Fashoda, permitted the tricolor to remain hoisted and arranged with Marchand that the disputed occupancy should be referred to the diplomatists of the two countries.

In 1899 Kitchener was summoned from Egypt to join Lord Roberts as chief of the staff when the latter took over the supreme command of the British forces during the Great Boer War. Here his untiring energy was devoted first to the work of organization. He was responsible for the decision to attack the Boers at Paardeberg and his tactical dispositions on that occasion were subjected at the time to severe criticism. In November 1900, after both of the Boer capitals had been occupied, and it appeared as if the object of the war had been attained, Lord Roberts handed over the command to Lord Kitchener and to him fell the difficult and arduous task of coping with the guerrilla methods thereafter adopted by the Boers, and to which the country was well adapted. He first made his railway communications safe and secured the important centres; then he brought the non-combatant population into concentration camps; and finally he established a vast system of protective blockhouses hugging the railway lines, which were finally used as armed bases against which long lines of mounted men swept parties of the Boers. In the negotiations preceding the Treaty of Vereeniging in 1902, which ended the war, Kitchener took an active part, and he favored the granting of generous conditions of peace. As a mark of appreciation for his services he was raised a step in the peerage by being created a viscount, promoted to the rank of general and was awarded the Order of Merit.

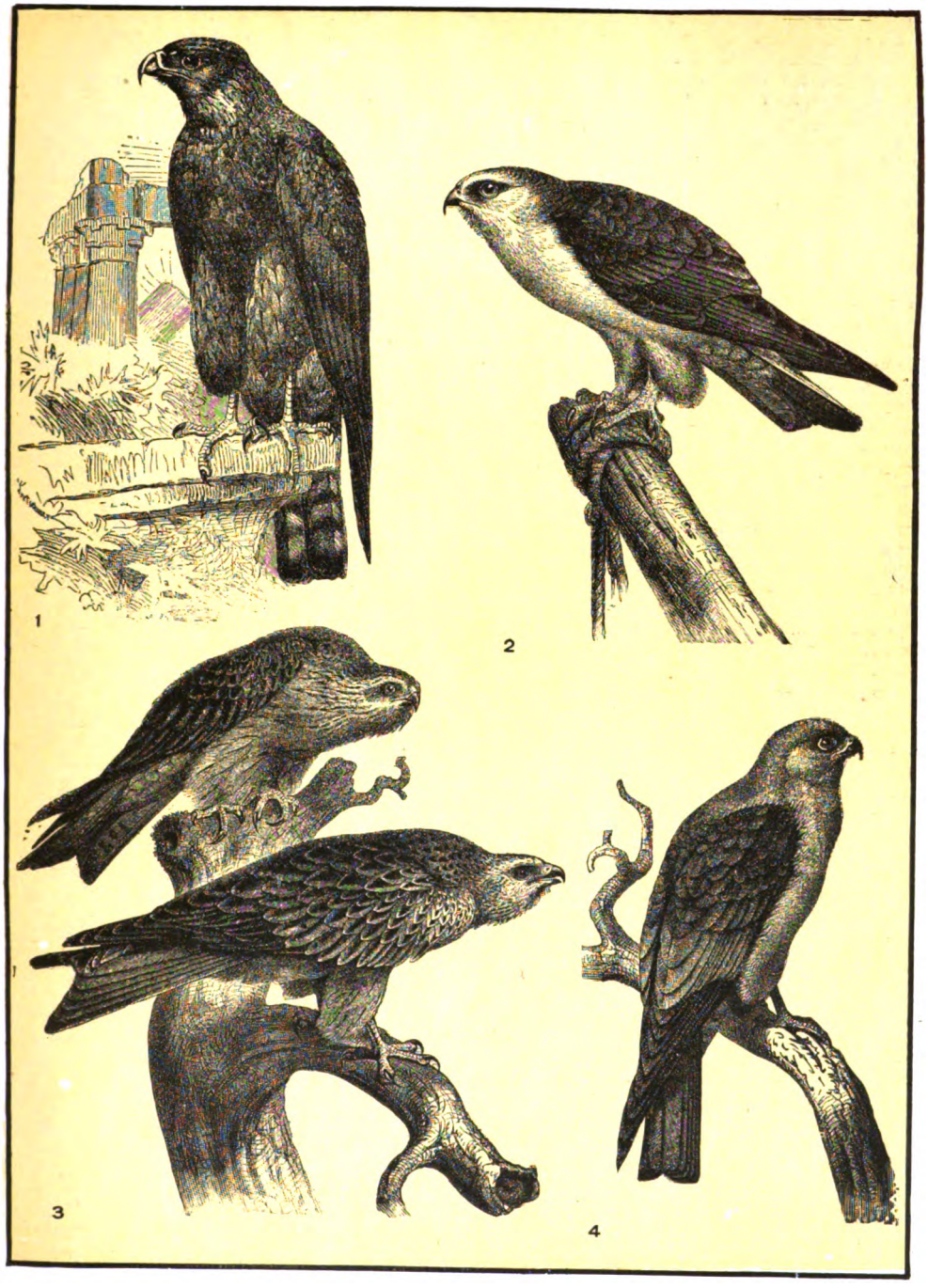
Shortly after the conclusion of the Boer War he was appointed commander-in-chief in India, and this post he held till 1907, carrying through a number of important reforms in the organization of the Indian army. At the end of his term he was appointed commander-in-chief in the Mediterranean, but this appointment he subsequently declined. In leaving India he paid a visit to Japan and then proceeded to Australia and New Zealand, where he drew up schemes for the defense of these dominions which were subsequently put in operation. In April 1910 he returned to England, when there ensued a brief respite from military duties and a relapse into civil life.

In 1911 Kitchener succeeded Sir Eldon Gorst as British Resident in Cairo. In this position he devoted himself to the suppression of the disloyal and anarchist agitation which had been gathering head during Sir Eldon Gorst's régime, and to the initiation and furtherance of measures for the economic development of the country. Largely owing to his exertions the value of the Egyptian cotton fields has largely increased, roads were constructed and improved, public health safeguarded by adequate sanitary measures and the fellaheen protected by legislation against the exactions of usurers.

The summer of 1914 found Kitchener in England in consultation with the imperial authorities. On 2 August he was boarding a steamship at Dover on his return to Egypt, when, owing to the threatening situation in Europe, he was summoned back to London. On the 4th war was declared and on the following day he was appointed Secretary of State for War — an announcement that was hailed with enthusiastic approval in Great Britain. The task that fell to him then was one of unexampled difficulty. The British army for effective purposes was composed of a striking force of 160,000 men; he expanded it into an army of 5,000,000, in a country traditionally devoted to voluntary enlistment, and his prestige and personality were main factors in the striking results achieved under the voluntary system and in the acceptance by the nation with so little friction of the final resort to conscription. Certain it is, however, that he took on himself a burden that was too heavy for one man to bear. Following on a campaign of criticism in a section of the press the Ministry of Munitions was created and the powers of chief of the staff enlarged with a view to keeping the War Secretary to matters strictly within his own department. On 2 June 1916 he invited the members of the House of Commons, some of whom had attacked his conduct as War Minister, to a secret conference at the House, and there he is said to have emerged triumphantly from what must have been for him a trying and somewhat distasteful experience.

The termination of his career followed a few days thereafter with tragic and appalling suddenness. Accompanied by the members of his staff, he embarked on 5 June on the cruiser *Hampshire* at an unknown port in the north of Scotland, with the intention of proceeding to Archangel, and thence to Petrograd to confer with the Russian government. The cruiser was accompanied by two destroyers, but owing to the heavy seas that were running these had to be detached. At eight o'clock in the evening an explosion occurred on board, which was observed from the shore; four boats were seen to leave the vessel, but these were apparently swamped and the sole survivors of the wreck were 12 sailors who managed to reach shore on a raft. It was afterward officially stated that the *Hampshire* had struck a mine. The news of the disaster was

KITES



1 Black-winged Kite
2 Egyptian Kite
3 Black Kite and Common Kite
4 Mississippi Kite

received with consternation and grief in all parts of the British Empire. Kitchener was followed as Minister of War by Mr. Lloyd George, and his elder brother, Lieut.-Col. Henry Elliott Chevallier Kitchener, succeeded to the title.

Kitchener in popular tradition was regarded as a stern, austere and somewhat unapproachable man; but his aloofness was due in the main to shyness, the conditions of his early service in Palestine, Cyprus and Egypt fostering a love of solitude that became a second nature with him. From the time of his Sudan campaigns he was regarded by the British public as an organizer of victory, one who never struck without making full and adequate preparation for the blow. This characteristic was fully revealed in his final task. When, at the outset of the great European conflict, a short war was generally anticipated, he had the courage and foresight to state the disagreeable truth and to make adequate preparations for a long war. No hope of temporary successes in the early stages of the conflict could divert him from his purpose, to ensure that, in what he conceived would be a war of exhaustion, the superiority in man power, munitions and equipment should in its later stages rest incontestably with the allied powers. Consult Beglie, H., 'Lord Kitchener' (London 1915); Burleigh, B., 'Twixt Sirdar and Khalifa' (London 1898); Doyle, Sir A. Conan, 'The Great Boer War' (London 1903); Groser, H. G., 'Lord Kitchener' (London 1914); Hackwood, F. W., 'Life of Lord Kitchener' (London 1913); Steevens, G. W., 'With Kitchener to Khartum' (1899–1914); Wheeler, H. F., 'Life of Lord Kitchener' (London 1914); 'The Boys' Life of Lord Kitchener' (New York 1917).

KITCHIN, George William, English historian and clergyman: b. Hadleigh, Suffolk, 7 Dec. 1827; d. 14 Oct. 1912. He was educated at Oxford, took orders in the English Church, and was prominent as tutor and lecturer at the university for many years. He became dean of Winchester in 1883 and in 1894 was translated to the deanery of Durham. He is widely known by his 'History of France,' a standard work (1873–77); and has also published 'Winchester' in the 'Historic Towns' series (1890); 'Life of Harold Browne, Bishop of Winchester' (1895); 'Life of Pope Pius II' (1881). He also translated Brachet's 'Historical French Grammar and Lexicon,' and did much to popularize the history of the French language in England.

KITE, a bird of prey associated with the buzzards in the sub-family *Buteoninæ* of the family *Falconidæ,* characterized by weak grasping-power in the feet, slender form, usually a forked tail, and long wings suited to the swift and graceful flight that distinguishes the group. "These buoyant birds," says Evans, "are fond of perching but soar with ease, quartering the plains like harriers, or hovering with uplifted wings to dart down on their prey of insects, snakes, small mammals, and more rarely birds." They build their nests on trees, or in some cases on bushes and reeds in marshes; and their eggs are whitish, marked in various degrees of spotting. The cries of most kites are loud and mournful, but some utter sharp, whistling notes. The Brahminy kite is exceedingly numerous in India and eastward, and is valued for its vermin-killing; and an Australian species, the whistling kite, is a powerful aid in suppressing insect-plagues. The red kite, or "gleed," of Europe eats almost every sort of small creature, and like some of the others does not disdain carrion. In the 16th century large flocks of gleeds dwelt in and about London, and were welcome as scavengers, as they are to-day in Cairo and other Oriental towns, but they have suffered almost total extermination in Britain, mainly because of their depredations on poultry, pheasants, etc. The gavinda, or Pariah kite, is the scavenger of Hindustan. Several species of these handsome hawks inhabit tropical America, one of which, the Everglade kite, comes to southern Florida, where it subsists exclusively on the snails (*Ampullaria,* etc.) that throng on the bushes in the mangrove swamps: hence it is locally known as snail-hawk. The swallow-tailed kite, black with purple and blue reflections, is commonly seen in the southern United States, and is pre-eminently a bird of the air. "It captures its prey, devours it, and drinks, while under way. Its flight possesses all the marvelous ease and grace of a swallow's." The white-tailed is a species of Texas and southward, haunting marshes rather than uplands. The Mississippi kite, however, wanders in summer all over the southerly interior, where it is generally known as the blue kite. All these are migratory. Consult Newton, 'Dictionary of Birds' (London 1896); Evans, 'Birds' (New York 1900); and American ornithologies, especially Bendire, 'Life Histories of North American Birds' (Vol. I, Washington 1892).

KITE, a common aerial toy in the form of two crossed sticks covered with paper and balanced with a tail or string, on which are tied bits of cloth or paper. Kites were first employed in aid of science in 1749 by Dr. Alexander Wilson and Thomas Mellville of Scotland, who by means of a thermometer attached to a kite were able to take temperatures above the earth's surface. Franklin's experiments with electricity by means of a kite and key are familiar to everyone. Among the men who have given much thought and labor to improve kite making are W. A. Eddy, S. P. Langley, Octave Chanute, Lawrence Hargrave, J. B. Millet, J. W. Davis, C. F. Lamson, H. D. Wise, Captain Baden-Powell, Professor Marvin, C. F. Moore and others. The first improvement was to make a tailless kite, and this was perfected by Mr. Eddy.

In 1895 Captain Baden-Powell of England, weighing 150 pounds, was enabled to hoist himself 100 feet in the air by a tandem of five kites. Mr. Hargrave, with three kites, raised a total weight of 208 pounds to the height of 16 feet, as far as he cared to go. Lieutenant Wise, in 1897, with four kites, rose to 42 feet, the entire weight raised being 229 pounds. Mr. Eddy has done much to develop tandem kite flying. In 1897 he made a tandem of nine Eddy-Malay kites on a cord two miles long, with an elevation of 5,595 feet, the same being kept up for 15 hours. At Blue Hill Observatory, near Boston, this height was exceeded, by the tandem of seven Malay and two Hargrave

kites, with an area of 170 feet, rising 8,740 feet above Blue Hill, or 9,375 feet above sea-level. It took three miles of piano-wire and the work of three men for 12 hours to accomplish this feat. Piano wire has been found preferable to cord, having greater tensile strength and presenting less surface to the wind.

In the United States Weather Bureau parakites are used for the purpose of recording the velocity of the wind and the humidity and temperature at high altitudes, by the meteorograph. These can be obtained at a single observation and several hours before the effects are known in the lower atmosphere. Photographs have been taken by means of a camera fastened on the frame of a kite and operated by a cord, and Mr. Eddy had an arrangement of eight cameras strapped together in which all the shutters can be opened at once, and by this means a complete view of the horizon can be taken. Inventors of flying and soaring machines have made extensive use of kites in planning the construction of their various contrivances. Since 1905 meteorological observations by kites have been carried on continuously by the Weather Bureau at Mount Weather, Va. The instruments were raised to 23,835 feet on 5 May 1910 when 10 kites and 8½ miles of wire were used.

The first permanent station for kite flying in Europe, and the first in the world established under governmental auspices, is that at Viborg, in the extreme northern part of Denmark, the governments of Denmark, Sweden and France co-operating in the scheme. The most important building at the station is a tower 33 feet high, mounted on circular rails, so that it can be rotated easily and left open on one side. No matter from which direction the winds blows the tower is turned with this gap to leeward. Thus the operator can sit within, where the windlasses are, and watch his kites. The latter, of course, naturally take their lines down the wind. There are two windlasses, controlled by electric motors, one being held in reserve for immediate use in case the wire on the other breaks while in service. Kites have also been used to throw lines across streams or chasms or to bring life-lines to stranded ships. Consult 'Proceedings of the International Conference on Aërial Navigation' (Chicago 1893); Marvin, C. F., 'Mechanics of the Kite'; 'Instructions for Aërial Observations'; 'Investigation of the Sluggishness of the Meteorograph'; and other bulletins of the Weather Bureau (Washington 1898 et seq.); L. Teisserenc de Bort, 'Études sur la température et ses variations,' in the 'Annals of the Central Meteorological Bureau' (Paris 1897); 'Sur l'organization des sondages aériennes,' in the 'Memoirs of the International Congress for Meteorology' (ib. 1900); Rotch, A. L., 'Use of Kites to Obtain Meteorological Observations' (Boston 1900); Assmann and Berson, 'Ergebnisse der Arbeiten am aeronautischen Observatorium in den Jahren 1900 and 1901' (Berlin 1902); 'Arbeiten des Königliche preussischen aeronautischen Observatoriums' (Lindenberg 1904–13), and paper by Millet, J. B., in the *Aëronautical Annual* for 1896.

KITSON, Henry Hudson, American sculptor: b. Huddersfield, England, 7 April 1865. At Paris he studied at the Ecole des Beaux Arts under Bonnaissieux. He was awarded three gold medals by the Massachusetts Charitable Mechanics' Association, a gold medal of honor by the American Art Association of New York. He received a medal at the Universal Exposition, Paris, 1889, as well as that in 1900. He also received the order of Bene Merenti from the king of Rumania. His more important works are 'Music of the Sea,' in the Boston Museum; the Major Doyle monument, Providence, R. I.; the statute of General Lee at Vicksburg, Miss.; 'The Minute Man,' at Lexington, Mass.; the Hayes Memorial Fountain at Providence; the W. H. Hunt Memorial, Boston, and the statue of Roger Conant, Salem, Mass.

KITSON, Theo Alice Ruggles, American sculptor: b. Brookline, Mass., 1871. Her maiden name was Ruggles. Educated in art in Boston and Paris, she married her most distinguished teacher in the former city, Henry Hudson Kitson (q.v.). From her earliest student days she showed peculiar talent for her work as a sculptor; and in Paris, under the instruction of Dagnan-Bouvert, she especially distinguished herself, and was the first American woman to receive honors in sculpture at the Paris Salon. In Paris her work is held to-day in high regard for its simplicity, force and directness coupled with its strength of vision and beauty and precision of execution. Her sculptures have been on exhibition in almost every great exposition in the United States and in numerous art clubs. Among her notable works are 'Woods of Michigan' (two bronze figures at the Chicago Exposition); 'Statue of Volunteer for Soldiers' Monument' (Newburyport, Mass.); 'Soldiers' Monument' (Ashburnham, Mass.); 'Massachusetts State Monument' (National Military Park, Vicksburg); 'Portrait Medallions of Dodge, Blair, Howard, Logan, Ransome, Grierson and other generals for the Sherman Monument' (Washington); 'Statue of Minute Man' (Farmington, Mass.); 'Soldiers' Monument' (Walden, N. Y.); 'Mother' (Blickerdyke group); 'Students' Monument' (Spanish-American War, University of Minnesota); 'Soldiers' Monument' (Pasadena, Cal.). Her work also includes a long list of similar monuments, a list which is growing in length and importance from year to year.

KITTANNING, Pa., borough and county-seat, on Allegheny River, 45 miles north of Pittsburgh, on Pennsylvania Railroad, Buffalo and Allegheny Division. Bituminous coal, oil and gas are the chief products in minerals, also limestone and fire-clays in vast quantities, with some iron ore in places. The manufacture of plate-glass, basic iron, manganese, buff building brick, chinaware and flour milling are the chief industries. Connected with the town of Ford City by trolley. Ford City has a population of about 8,000 and is the location of the largest plate-glass manufactory in the world, works 4 and 5 of the Pittsburgh Plate-Glass Company. The Allegheny River Mining Company with over 3,000 miners and laborers are operating in the immediate vicinity of Kittanning and Ford City, increasing the suburban population greatly in recent years. Pop. 8,000, excluding suburbs.

KITTATINNY (kit'ą-tĭn-ĭ) **MOUNTAINS,** a range which extends from Ulster County, N. Y., south and southwest, through the northwestern part of New Jersey and into Pennsylvania. The names by which the range is generally known are in New York, the Shawangunk, in New Jersey, the Kittatinny and in Pennsylvania the Blue Mountains. The range varies in height from 500 to 1,800 feet. The mountains belong to the Appalachians, and form the eastern ridge of the main part of the system.

KITTATINNY PENEPLAIN. See PENEPLAIN.

KITTERY, kĭt'ĕ-rĭ, Me., town in York County, on the Piscataqua River and the Boston and Maine Railroad, four miles from the Atlantic Ocean, opposite Portsmouth, N. H. The United States Naval Station and Shipbuilding Yards are located here on Corifincutal Island, but are known as the Portsmouth Navy Yard. The town is one of the oldest in New England. It was settled in 1624 and incorporated in 1647. It was the birthplace and former home of Sir William Pepperell. There are numerous hotels and churches here, public schools and the Rice Public Library containing 5,000 volumes and the Traipe Academy. Pop. 3,533.

KITTIM, or **CHITTIM,** a term of Biblical origin for the inhabitants of the island of Cyprus, derived from the important town of Kition or Cition, the modern Lanarca. The "isles of Kittim" are mentioned in Jeremiah ii, 10, and Ezekiel xxvii, 6. It is also the name of the third son of Javan and the brother of Elisha, Tarshishard Dodanim (Gen. x, 4).

KITTIWAKE. See GULLS.

KITTO, John, English Bible student: b. Plymouth, England, 4 Dec. 1804; d. Cannstadt, near Stuttgart, Germany, 25 Nov. 1854. He was the son of a mason at Plymouth, and after obtaining a very scanty education began to assist his father, but met with a fall which deprived him of the sense of hearing. Sent to the workhouse he was presently apprenticed to a shoemaker, who used him so cruelly that the magistrates canceled his indentures. He therefore returned to the workhouse, where some philanthropic gentlemen became interested in him, made provision for his support and procured for him permission to read in the public library. In 1824 he became the pupil of Mr. Groves, a dentist of Exeter, who supported him and gave him a small salary for his services. In 1825 he was sent to the Missionary College at Islington for the purpose of receiving training as printer for the foreign press of the Church Missionary Society. Shortly afterward he was sent abroad by the society, but returned two years later. In 1829 Mr. Groves organized a private missionary party which set sail for the Persian court, where from 1829–33 Kitto acquired that familiar acquaintance with the East which he afterward employed in his writing. He had opened a school for Armenians at Bagdad, which he was forced to abandon because of the ravages of disease and floods in the neighborhood. He founded and edited the *Journal of Sacred Literature* (1848–53), and although a layman of the English Church received in 1844 the degree of D.D. from Giessen. He published 'The Pictorial Bible' (1835–38); 'Pictorial History of Palestine' (1841); 'Gallery of Scripture Engravings' (1841–43); 'Cyclopædia of Biblical Literature' (edited 1843–45); 'The Lost Senses: Deafness and Blindness' (1845); 'Physical Geography of the Holy Land' (1848); 'Daily Bible Illustrations: Morning Readings' (1849–51); 'Evening Readings'; and many other similar works. In his latter years he enjoyed a pension of £100 a year from the Crown.

KITTON, Frederic George, English author and artist: b. Norwich, 5 May 1856; d. 10 Sept. 1904. After receiving his education at a private school in Norwich, he was put under the training of W. L. Thomas, managing director of the London *Graphic,* and became an expert draftsman and wood engraver. In 1882 he added literature to his profession of book illustration. Among his delightful appreciations of artists, illustrators and authors of his time may be mentioned 'Phiz' (Hablot Knight Browne),' a memoir (1882); 'John Leech, Artist and Humorist' (1883); 'Charles Dickens by Pen and Pencil' (1890); 'Dickens and his Illustrators' (1898); 'Charles Dickens, his Life, Writings and Personality' (1902).

KITTREDGE, George Lyman, American educator and author: b. 1858. Graduated from Harvard University (1882) he became instructor in English in that university, being raised to the rank of full professor 12 years later. He has given much attention to English philology and the study of English literature. Among his published works are 'The Mother Tongue' (with Sarah Louise Arnold, 1900); 'Words and their Ways in English Speech' (with James B. Greenough 1901); 'Old Farmer and his Almanac' (1905); 'Essays on Chaucer' (1914); 'Chaucer and his Poetry' (Johns Hopkins lectures, 1915).

KITT'S, Saint. See CHRISTOPHER, SAINT.

KITTUL, kĭ-tool, or **KITTOOL.** See FIBRE.

KIU-KIANG, kēoo'kēăng', a city in the province of Kiang-si, China. The name means, in Chinese, "Nine Rivers," and the city, which is the official head of the province, is situated on Yang-tse-kiang, a short distance above the entrance to Lake Poyang. The city which, like most Chinese cities, is walled, is, within this rampart, about five miles in circumference; but the modern town has outgrown the wall and a considerable important suburbs exists without it. The city is well drained and lighted and possesses a better police force than is usually to be met with in a Chinese city of its size. This may be due to the fact that it has a large foreign population both within the city limits and in the suburban residence portion. Within the city are Protestant and Catholic churches, some of them fine buildings; and the British government maintains a consulate there. The greater number of the foreign residents occupy a stretch to the west of the city along the river, between the Chinese suburban quarters and the stretch of shallow lakes which lie some distance to the west of the city. The town exports considerable of the products gathered in from the surrounding neighborhood, but the range of its industrial and com-

mercial activities does not extend far inland. The exports consist, for the most part, of rice, tea, paper, tobacco, chinaware, hemp and other agricultural products in a lesser degree, and grass-cloth; while the greater percentage of the imports consists of cotton and woolen goods, metals, provisions and leather articles. In the past a great deal of opium was sold in the city and shipped to interior points in China. Pop. about 50,000.

KIUSHU, kyoo'shoo', or **KYUSHU,** Japan, one of five large islands of the empire; area, 16,840 square miles. It contains nine provinces but for administrative purposes is divided into seven *Ken* or prefectures. The island is mountainous and volcanic. The principal harbor is the treaty port, Nagasaki, but in 1889 five special ports of export were opened. Pop. 7,727,000.

KIVA, the sacred ceremonial chamber of the Pueblo Indians. The name is Hopi and the institution is to be found in every Hopi and other village throughout the Pueblo country. The kiva, which was generally known to the first Spanish visitors and explorers in the Pueblo territory, as *estufa* (stove or furnace) is so old an institution that its origin is lost in tradition. At one time its use was much more extensive than at present, or even within historical times, as is evidenced by the remains of kivas in the ruins of prehistoric villages in Arizona, Colorado, Utah and New Mexico. It was probably also in use at one time in parts of Mexico. Some kivas were quite large; and some of those in use in prehistoric times seem to have been larger than those existing at the present time, if we are to judge from existing remains. Castañeda, writing in 1540, tells of one which had "twelve pillars, four of which, in the centre, were each as large as two men could reach around." He is also the authority for the statement that some of the kivas that he had seen "were large enough for a game of ball." The early Spanish missionaries and other visitors to the land of the Pueblos gave the name *estufa* to the kiva because they mistook it for a sweat house, losing complete sight of its sacred character and the part it had long played in the past (and still plays) in the religious life of the Pueblos. Four hundred years ago the kivas of the Rio Grande country were much the same as they are now. They were large underground, or semi-underground, square or round structures, the roofs of which were supported by handsome pillars. About the time of the discovery of America, and for some time afterward, the young unmarried men of marriageable age lived in the kiva, and with them also lived widowers or men who had repudiated their wives. Women were forbidden, under dire penalties, to sleep in the kivas, which they could visit only to bring to their relatives food and other prime necessities. This restriction upon the visit of women is still in force in all the Pueblo villages. Women, however, are permitted to visit the kivas on the occasion of certain public festivals or other ceremonies of a religious or other tribal nature. There are also, in the Pueblo villages, though much more rarely, kivas for women. These latter may not be visited by men except under certain prescribed conditions similar to those already indicated. These kivas of the women are also the club houses of secret religious ceremonies of a peculiarly sacred nature. The kivas were and still are the common property of the village and never belonged to one individual or set of individuals notwithstanding the fact that they are the home of secret societies. In some villages the kivas are rectangular, in others square, and in still others, circular. They were originally built in the courtyard of the village; but they are to-day usually hidden among the houses; and they are still partially or altogether under ground. One Pueblo may have from one to a dozen kivas, according to its population, wealth and interests. Even those kivas that have the walls partly above the ground have few or no openings at all in the walls, and where the openings exist, they are invariably very small, the entrance to the buildings themselves being invariably from the flat roof, which is reached by means of a ladder that can be drawn up. A second ladder connects the inside of the kiva with the roof, through a trap-door. The roof, which is very strong and thick, is generally made of well tramped earth or adobe bricks overlying beams or rushes, which are supported by the pillars already mentioned. The trap-door which is placed in the centre of the roof, also serves as a hole to permit the escape of the smoke from the fireplace of the kiva which almost invariably occupies the centre of the edifice, and consists of a shallow fire pit. The kiva floor is usually covered with smooth sandstone slabs; and around three sides of the walls run stone benches supported by adobe brick-work. Against the fourth wall is a low ceremonial platform and a ceremonial altar. Many of the kivas have the walls, or parts thereof covered with hieroglyphic paintings, symbolic in nature, and serving to remind the master of ceremonies of the main incidents in the ceremonies to be performed on certain stated occasions.

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KIVINJE, kē-vēn'yă, the modern name of the town of Kilwa, in German East Africa, which is so called to distinguish it from the ancient Arabian town of the same name on an island some 17 miles farther down the coast. See KILWA KIVINJE.

KIWI-KIWI, kē'wĭ-kē'wĭ. See APTERYX.

KIZIL-IRMAK, kiz'ĭl-ĭr-māk' (the Turkish for Red River), a river known to the ancients as the Halys, the principal river of Asia Minor. Rising in the east of the peninsula, it flows in a circuitous route for over 500 miles and enters the Black Sea near Sinope.

KJERULF, kyā'rulf, **Halfdan,** Norwegian musical composer: b. 1815; d. Christiania, 1868. He began the study of theology; but his musical inclination was too strong and he finally gave up his theological studies and went to Leipzig to study music. He displayed a strong lyrical talent and a facility for the writing of popular songs much above the average of compositions of this class. He was undoubtedly encouraged to do his best in this field from the fact that his songs were sung in public by some of the greatest stage favorites of his day, among them Jenny Lind, Nilsson and Sontag, all singers of world-wide reputation, who made the compositions of Kjerulf almost as popular and well known as themselves. He also composed much excellent piano music. All his work shows melodic gifts and power of thought presentation equalled by few of his fellow-countrymen. His great popularity and his real musical gifts enabled him to exercise a noteworthy influence upon the national music of his native land and to create a school of his own, of which the most brilliant pupil was Grieg, who, in some respects, surpassed his master.

KLAGENFURT, klā'gĕn'foort, capital of Carinthia, Austria. It practically forms a suburb of Wörther, though it is not within the city corporation of the latter place. The city has the usual educational and other buildings to be found in a German city of its size, and this may be accounted for from the fact that most of its inhabitants are German. In the cathedral built in the 16th century is the stone on which the dukes of Carinthia sat to receive the homage of their vassals. This stone has many legends attached to it; and it seems to have been originally connected with the ancient pre-Christian religious beliefs of the people of the country. The stone appears to have a history similar to that of stones in the history of England, Ireland and Scotland. Among the principal industries of the city are the manufacture of leather, tobacco, cloth, machinery, white lead and shoes. Agriculture and mining occupy considerable of the attention of the people of the city and the surrounding country; and the place possesses an excellent school of agriculture and mining. Pop. 35,000, principally Germans.

KLAMATH, klä-măt, a name applied to several tribes of American Indians formerly living along the Klamath River in Oregon and California, but now settled on a reservation at Klamath Lake. Their present lands were given them by treaty in 1864, the reservation containing 1,360 square miles. The Klamaths who now number about 700 are fairly civilized and are expert stock-raisers.

KLAMATH LAKE, Ore., a small lake in Klamath County, at the base of the Cascade Range. It is 44 miles long by 6 to 14 miles wide. It consists of two considerable bodies of water connected by a narrow strait less than two miles wide. Klamath River is the outlet, and issues from the south end, or Lower Klamath Lake, and flows thence into California.

KLAMATH FALLS, Ore., county, city and county-seat, situated on Lake Ewanna and is on the line of the Southern Pacific Railroad. The precipitous river sink, which passes through it, furnishes a vast amount of natural motive power, the fall of the river for the mile and a half before entering the town being on an average of 58 feet per mile. These natural facilities have been made use of by the United States government which has established, in the immediate vicinity of Klamath Falls, a vast irrigation project for the reclamation of a considerable extent of territory. These and other conditions have made the town the centre of very active agricultural interests and of extensive cattle raising. The industrial activities of Klamath Falls are very largely centred in lumbering, milling, the bottling of mineral waters and the manufacture of cereal foods. Not far from Klamath Falls is the Klamath Indian Reservation with a population of some 1,200 Indians; and near to it are also the extensive lava beds which were the scene of the Modoc Indian War (1873). Pop. about 3,500.

KLAPKA, klŏp'kŏ, **Gyorgy** (GEORGE), Hungarian general: b. Temesvar, 7 April 1820; d. Budapest, 17 May 1892. He entered the Austrian army in 1838 and rose to high rank. In 1848, at the beginning of the revolution he joined the Hungarians and distinguished himself in nearly all the battles with the Austrians; in more than one the fortune of the day was decided by the troops under his command. His most noted exploit was his defense of Komorn, which he continued to hold for some weeks after all the rest of Hungary had submitted. He lived in exile in England, France and Italy, and remained at Geneva many years, occupied with plans for the liberation of his country. He assisted in the plans of Sardinia to form a Hungarian legion. He took an active part in the War of 1866, and after the amnesty of 1867 he returned home, and then became a member of the Hungarian Diet. He published 'The National War in Hungary and Transylvania' (1851), one of the best works on the subject; 'The War in the East' (1855); 'Memoirs' (1869); 'Recollections' (1887).

KLAPROTH, klăp'rōt, **Martin Heinrich,** German chemist: b. Wernigerode, 1743; d. 1817. His position as professor in the University of Berlin permitted him to follow up his studies on the analyses of minerals which he carried to a perfection and exactness never before attempted or obtained. He was very liberal minded and quite willing to accept at their full value the work of any of his contemporaries and to encourage the young aspirants to honor and place. Thus he was one of the first to recognize and publicly point out the great value of the work performed for science by Lavoisier in his remarkable discoveries. His chief work 'Beitrage zur chemischen Kenntniss der Mineralkörper' appeared in six volumes between 1793 and 1815.

KLATTAU, klä'tou, or **KLATOVY,** a city in Bohemia, Austria, about 30 miles south of Pilsen, with which it is connected by rail. Its chief industries are the manufacture of woolen and cotton cloth, matches, machinery and chicory. It has the usual buildings of an Austrian city of its size and, in addition, a fine old church dating back to the 13th century. Pop. 17,000.

KLAUSENBURG, klou'sĕn-boork, or **KOLOZSVAR,** a county and capital town of the same name in Hungary. The town was at one time the capital of Transylvania. It consists of the old town and several growing suburbs, and possesses a historical cathedral, dating back to the 15th century, a reform church of the same century and a citadel erected by General Steinville in 1715, as a protecting fortress for the town. The city is well provided with educational institutions, the most noteworthy of which is the Francis Joseph University founded in 1872. The attendance has increased from year to year; and the facilities of the institution have improved with the increase in attendance. It now has complete university faculties and over 3,000 students in normal times; and a library of over 100,000 books. The city also possesses machine shops, distilleries, paper, cloth and sugar mills, cigar factories, railway shops and a very extensive farm implements factory. Klausenburg has had, like most of the older Hungarian towns, an eventful career. Founded by German colonists, probably on the site of an older town, in 1178, it became a free royal town in 1405; and it was more or less mixed up in the numerous political and other disturbances of the centuries. Finally in 1848 the revolutionists under Bem captured it; and it was the scene of revolutionary demonstrations in 1918, following the surrender of Austria to the French, English, American and Italian allies. Klausenburg has grown from 34,800 in 1890 to almost double that population in 1918. Notwithstanding this rapid growth of population the people are notably homogeneous, most of them being Magyars, and of the Protestant faith.

KLAW, Marc, American theatrical manager: b. Paducah, Ky., 1858. He graduated in law, but turned to theatre management and became a member of various theatrical combinations the most successful and best known of which is Klaw and Erlanger. During the European War (1914–18) he was very active in charge of the entertainment service of the war department, Commission on Training Camp Activities, United States army. As a theatre manager he has introduced many novel and interesting features into stage life.

KLÉBER, klā'bār, **Jean Baptiste,** French general: b. Strassburg, 9 March 1753; d. Cairo, Egypt, 14 June 1800. He first studied architecture in Paris, then entered the military school at Munich; and having joined the Revolutionary army was appointed brigadier-general and sent to La Vendée. He afterward commanded the left wing of the army of Jourdan, directed both the passage of the Rhine at Düsseldorf and the subsequent retreat; defeated the Prince of Württemberg, took Maestricht and Frankfort, and subsequently Prince Charles. Under the Directory he had command of the French armies. Bonaparte entrusted the command of the army in Egypt to Kléber, who, deeming resistance useless, concluded the convention of El Arish with the British, by which the French were to be conveyed home with arms and baggage. This being disowned by the British government, Kléber determined upon the resubjugation of the country, in which he was successfully engaged when he was assassinated. A monument has been erected to him at Strassburg. Consult Ernouf, 'Le général Kléber' (Paris 1867).

KLEIN, Charles, Anglo-American dramatist: b. London, England, 1867; d. 1915. Educated at North London College, he emigrated to New York City shortly after graduation and there he became play censor for the Charles Frohman Company, a position that gave him immediate and helpful contact with the theatre. His constant exercise of judgment on plays presented to Frohman gave Klein a deep sense of the prime requisites of a good play. He frequently helped to fix up and to recast the plays presented; and from this it was only a step to the production of plays on his own account. His dramatic works show considerable power and no lack of original situations and some of them have been notable successes, among the latter being 'The Auctioneer'; 'The Music Master,' and 'The Lion and the Mouse.' Among his other dramas are 'A Mile a Minute'; 'By Proxy'; 'The District Attorney'; 'Two Little Vagrants'; 'Heartsease'; 'The Hon. John Grigsby'; 'Mr. Pickwick'; 'The Daughters of Men'; 'The Step Sister'; 'The Third Degree'; 'The Next of Kin'; 'The Gamblers'; 'Maggie Pepper'; 'The Outsiders'; 'The Ne'er Do Well'; 'The Money-makers.'

KLEIN, klīn, **Felix,** German mathematician: b. Düsseldorf, 25 April 1849. He was educated at Bonn, became Plücker's assistant in the physical institute in 1866, was appointed lecturer at Göttingen in 1871, professor at Erlangen in 1872, and held chairs from 1875 in the Technical High School of Munich, from 1880 at Leipzig, and from 1886 at Göttingen. In 1893 he represented Göttingen at the World's Columbian Exposition at Chicago. He exercised large influence on American mathematics, having taught many instructors in institutions in this country. In 1875 he became one of the editors of the *Mathematischen Annalen,* and in 1898 of the 'Encyclopädie der mathematischen Wissenschaften.' In 1897 he collaborated with Fricke in the publication of 'Vorlesungen über die Theorie der antomorphen Funktionen.' He was chosen president of the International Commission on the Teaching of Mathematics in 1908. Among his more important works are 'Ueber Riemanns Theorie der algebräischen Funktionen' (1882); 'Vorlesungen über das Ikosaëder und die Auflösung der Gleichungen vom fünften Grad' (1884); 'Einleitung in die höhere Geometrie' (1893); 'Evanston Colloquium' (1893); 'Ueber die hypergeometrische Funktion' (1894); 'Ueber lineare Differentialgleichungen der 2. Ordnung' (1894); 'Theorie des Kreisels' (2 vols., 1897–98); 'Vorlesungen über die Theorie der elliptischen Modulfunktionen' (1890–1912); 'Mathematical Theory of the Top' (New York 1897); 'Vorträge über ausgewählte Fragen der Elementargeometrie' (1895; Eng. trans. by Beman and Smith, 'Famous Problems of Elementary Geometry,' Boston 1897). He also edited the works of Möbius (1887).

KLEIN, Félix, French clergyman and writer: b. Château-Chinon, department of Nièvre, 12 July 1862. Educated at the seminaries of Meaux and Saint Sulpice, the Institut Cathol-

ique de Paris and the Sorbonne, he became professor of philosophy at the École Saint Etienne at Meaux in 1890, and in 1893 was appointed professor of French literature at the Institut Catholique. A tolerant, broad-minded ecclesiastic of democratic sentiments, his preface to a French translation of a life of Father Hecker (q.v.) in 1897 laid him open to the charge of "Americanism." The papal interdiction of that heresy in 1899 led the abbé to retract and withdraw the book. In 1904 he visited the United States and Canada, an experience that still further strengthened his keen interest in, and admiration for, American institutions and ideals. He was received by President Roosevelt in Washington, and on his return published a record of his travels entitled 'Au pays de la vie intense' ('In the Land of the Strenuous Life,' Chicago 1905) and dedicated to Mr. Roosevelt. In 1907 he made a lecturing tour in America, which furnished materials for his book, 'America of To-morrow' (1910). During the European War the Abbé Klein was attached as chaplain to the American War Hospital in Paris. In this capacity he kept a record of events in a careful diary, published in 1915 as 'La guerre vue d'une ambulance,' of which an English translation appeared in the same year, 'Diary of a French Army Chaplain.' It is a simple, profoundly moving account of what war means to the wounded combatants. In October 1916 he published a volume of reflections, 'Les douleurs qui espérent,' translated by G. Bailey under the title of 'Hope in Suffering.' Made up of short studies of types of French character, the book reveals finest aspects of French faith and patriotism. His other writings are 'An American Student in France,' a peculiar work of semi-fiction with its original title of 'The Discovery of the Old World by a Student from Chicago,' drawing comparisons between the two countries; biographies of Bishop Dupont of Metz, and Cardinal Lavigerie; 'New Tendencies in Religion and in Literature'; 'Higher Education of Women'; an edition of Montaigne and of Corneille; 'Autour du dillettantisme'; 'Le fait religieux,' and translations from Archbishops Ireland and Spalding.

KLEINITE, a mineral consisting of mercury ammonium chloride, of uncertain formula. A source of mercury in the Terlingua district, Brewster County, Tex., with other rare mercury minerals, montroydite, eglestonite and terlinguaite.

KLEIST, klīst, **Ewald Christian von**, German lyric poet: b. at Zeblin, an estate near Köslin, 7 March 1715; d. Frankfort on the Oder, 24 Aug. 1759. He studied law, philosophy and mathematics at the University of Königsberg (1731), and entered the military service of Denmark in 1736, of Prussia in 1740. Being assigned to the garrison at Potsdam, he had occasion to meet Gleim, Ramler and Nicolai, literary lights, and to conceive an unrequited affection for Wilhelmine von der Goltz. He was an active military campaigner, and his death was due to wounds received at the battle of Kunersdorf. His early lyrics were of anachreontic type, but he gradually drifted under the influence of Klopstock (q.v.), later, however, developing those original lyric qualities that are his principal charm. His most famous work is the fragment 'Der Frühling' (Berlin 1749); his 'Gedichte' appeared 1756; 'Neue Gedicht' (1758). A critical edition of his works, edited by August Sauer, appeared at Berlin in three volumes (1882–83).

KLEIST, Heinrich Bernt Wilhelm von, hin'rĭH bĕrnt vil'hĕlm fŏn klīst, German dramatist: b. Frankfort-on-the-Oder, 18 Oct. 1777; d. Wannansee, near Potsdam, 21 Nov. 1811. He entered the army in 1795, but left it in 1799 to study at Frankfort and Berlin, and later engaged in journalism in Dresden and Berlin. His first drama, 'Die Familie Schroffenstein,' was published in 1803, and was followed by 'Amphitryon' (1807); 'Penthisilea,' a tragedy (1808); 'Das Kätchen von Heilbronn' (q.v.) (1810), a popular poetic drama; 'Der zerbrochene Krug' (The Broken Jug) (1811). A volume of 'Tales' appeared (1810–11), and posthumously, 'The Battle of Hermann,' and 'Der Prinz Von Homburg.' He exhibits some of the worst faults of the Romantic school, to which he belongs, but nevertheless his best plays, such as 'The Prince of Homburg' and 'The Broken Pitcher' possess sufficient vigor and fidelity to life to make them popular even at the present day. The best of his tales is 'Michael Kohlhaas,' a story of Brandenburg in the Middle Ages. He failed to gain recognition and shot himself, after first shooting a woman whom he loved, and who like him was weary of life. His works did not receive notice till after his death, when they were made known by Tieck. An incomplete edition of his works appeared at Berlin (3 vols., 1826). The best modern edition is that by Schmidt, Minde-Pouet and Steig (5 vols., 1904). His letters were edited by Bülow (Berlin 1848), Koberstein (ib. 1860) and Biedermann (Breslau 1888). Consult Becker, K. H., 'Kleist and Hebbel' (1904); Brahm, 'Heinrich von Kleist' (new ed., Berlin 1913); Hart, Julius, 'Das Kleist-Buch' (1912); Herzog, 'Heinrich von Kleist' (1911); Roettcker, 'Heinrich von Kleist' (1907); Wildbrandt, 'Heinrich von Kleist' (Nördlingen 1863), and Lloyd and Newman, 'Prussia's Representative Men' (London 1875).

KLENCK (klĕnk) **-CHEZY, Wilhelmine Christine von**, German poet and novelist: b. Berlin, 26 Jan. 1783; d. Geneva, Switzerland, 28 Feb. 1856. She was married to Antoine Léonard de Chézy (q.v.) in 1801. She acquired considerable celebrity by her 'Poems' (1812); 'Heart Notes During a Pilgrimage' (1833); and 'Emma's Ordeal' and other novels, but is perhaps best known as the writer of the libretto of Weber's opera of 'Euryanthe.'

KLENGEL, klĕng'ĕl, **August Alexander**, German composer: b. Dresden, 1784; d. 1852. After studying art in his native city under several notable teachers, he went with Clementi, one of his teachers, to Saint Petersburg and other parts of Russia after having first traveled with him through Germany. He liked Russia so well that he remained in Saint Petersburg six years (1805–11). He acquired quite a reputation in Russia as a musician; but a desire to further his musical studies took him to Paris where he spent two years; after which he visited England and Italy, improving his execution and his knowl-

edge of his art. On his return to his native city in 1816 he became organist in the chief Roman Catholic church there. His music in the church soon became a feature of the musical life of the city; and many people not of the Catholic faith went to listen to his playing. He was as accomplished a pianist as organist; but his ability as a composer to-day outshines his work as a performer on these instruments. He wrote good salon music and numerous notable fugues and canons, among a multiplicity of other work, all of which is well done.

KLEPHTS, klĕfts (Greek, "thieves"), Greek bandits who, after the conquest of Greece by the Turks in the 15th century, kept themselves free in the mountains of northern Greece and Macedonia, and carried on a perpetual war against Turkish rule, considering everything belonging to a Turk a lawful prize. During the war of independence these Klephts furnished the Greeks with some of their best soldiers and leaders. Whole tribes, as the Suliotes and Chimariots in Epirus, and the Sphakiots in Crete, are to be numbered among them. They developed a considerable literature of their own, especially in the form of ballads, usually composed in the vernacular. The gradual development of the country after its independence had been established resulted in the disappearance of this picturesque class. See GREECE.

KLEPTOMANIA (from Greek *κλέπτειν*, steal, and *μανία*, madness), a mania for stealing, a propensity often regarded as being irresistible and involving a kind of moral insanity. It is frequently pleaded in law courts as an excuse for theft, although the act constitutes a legal offense. See INSANITY.

KLESEL, Melchior. See KHLESL.

KLIKITAT, a shapatian tribe of North American Indians who once made their home in Klikitat and Kamania Counties, in the State of Washington. They are closely related linguistically to the Yakima who were their neighbors on the east. The Klikitat seem to have never, since they have come within the knowledge of the white man, been very numerous. Lewis and Clark, who visited them in 1805, placed their number at 700. This may not, however, have included all those speaking the same tongue. Between 1820 and 1830 they crossed the Columbia river and dispossessed the cognate tribes then occupying the Willamett Valley; but they were driven back over the river to their former habitat. The Klikitat were among the greatest traders of the western United States and Canada. They carried on an extensive trade, or exchange of commodities between the coast tribes and those living to the east, north and south of them. They were among the first of the western Indian tribes to cede their lands to the United States, which they did by the Yakima treaty (9 June 1855). In the more than 60 years which have passed since then, they have become so mixed with other Indian stocks and tribes that they are now undistinguishable as a separate race, though their descendants are still, for the most part, to be found on the Yakima reservation, Washington. It is, therefore, impossible to estimate their present numerical strength. The word Klikitat means, in Chinookan, "beyond or on the other side of" and was used with reference to the Cascade mountains, which lay between the Klikitats and the coast tribes.

KLINGER, klĭng'ĕr, **Friedrich Maximilian von,** German dramatist, novelist and essayist: b. Frankfort-on-the-Main, 1752; d. 1831. By profession he was a soldier, though he early showed his literary tendencies when, as a student at Giessen, he was awarded a special prize for his tragedy 'Die Zwillinge' which was published in 1775. He was a man of considerable force of character; and he made rapid advancement in his military life just as he made a strong impression on the literature of his day. In 1776, the year following his literary début, he published a drama entitled 'Sturm und Drang' which was destined not only to profoundly influence the German literary tendencies of his day but to give its name to one of the most intensive literary movements in German literature. Klinger, after several years' military service in Germany, went to Saint Petersburg and there entered the Russian army where he remained most of his life, though in more or less close contact with the leaders of the literary movement in Germany. He rose, through gradual and successive promotions, to the rank of lieutenant-general, and he was held in high esteem by the Russian military authorities. In the army, too, he found some congenial literary spirits over whom he exercised considerable influence. Klinger was one of the first novelists in Germany who worked toward a certain definite purpose ethical in its tendencies; and this in itself attracted many literary men to his standard and gained many readers and critics for his works. Unfortunately his literary taste falls generally below his inventiveness; and so his works are constantly offending through the crudeness of their presentations and their lack of literary discrimination and good form. But the vehemence with which he presented his opinions, more or less novel, and therefore attractive in his day, outbalanced all the shortcomings of their author; gained for him a very extensive following and gave him an influence over literary thought and form of expression of his day out of all proportion to the real value and importance of his literary work. Yet, in the midst of much that offends good taste and of presentations and characterizations that are untrue to life, there is also much in Klinger's work that gave inspiration to the writers of his age and that left their impression indelibly imprinted upon the literary movement not only in Germany but upon that of most of Europe; for he was, in some senses, the most aggressive of the leaders of the "Storm and Stress" period in German literature. His work was very considerable and most of his writings have appeared in various editions. Among his works most worthy of attention for their own intrinsic merits and for the influence they have had on Germany literary thought are, in addition to those already mentioned, 'Faustus Leben, Thäten und Hollenfahrt'; 'Der Weltmann und der Dichter'; 'Betrachtungen und Gedanken über verschiedene Gegenstande der Welt und der Litteratur'; and his dramas, all of which are interesting as reflecting the thought and the literary influences of the age in which he was actively at work. A complete edition of his works was

published at Stuttgart in 1841, and a second edition, more or less selected in character, appeared in the same city in 1878–80 (8 vols.). Consult Erdmann, 'Klingers dramatische Dichtungen' (1877); Kürschner, 'Deutsche Nationallitteratur' (Vol. I, which contains 'Stünmer und Dränger,' Stuttgart 1883); Prosch, 'Klingers philosophische Romanne' (Vienna 1883); Schmidt, 'Lenz und Klinger' (Berlin 1878). To these might be added a study of his life and work by Rieger (2 vols., Darmstadt 1880–96). This is very exhaustive, though not always reliable. It has been translated into French.

KLINGER, klĭng'ĕr, **Max,** German painter, etcher and sculptor: b. Leipzig, 18 Feb. 1857. He was a pupil of Gussow at Karlsruhe and later at Berlin; studied also at the Berlin Academy; was active at Rome in 1888–92; and from 1893 in Leipzig. Of unusual versatility he was at first chiefly an etcher (1879–86), perhaps the best of his work in this line being the 'Brahms-Phantasien' (1894), deriving their subjects from various works of that composer. Then he directed his attention to painting in oils, and executed heroic canvases of 'The Crucifixion' (1890), now in the Hanover Museum, and 'Christ on Olympus' (1897) at Vienna. In 1894 he began to devote himself to polychromatic sculpture and one of the best of his plastic works is his statue of Beethoven (1902, Leipzig Museum), in which onyx, bronze and differently colored marbles are combined. Later works include 'The Drama' (1904), a colossal marble group in the Albertinum, Dresden; 'The Athlete,' a colossal bronze at Leipzig, and the striking bust of Nietzsche at Weimar. Klinger was the recipient of numerous awards, academic and knightly honors in recognition of his art. He published 'Malerei und Zeichnung' (3d ed., 1899).

KLIPSPRINGER, a small, robust antelope (*Oreotragus saltator*), about equal in size to the chamois, and resembling it in habits, found in the mountainous districts of South Africa. It is yellowish-gray, and the hair is long and makes a rough fur. The flesh of the klipspringer is particularly esteemed; the hair is also valued for stuffing saddles; and it has therefore become rare in localities where it was once common. The pinnacles and precipices in which it delights make hunting it with dogs impossible, but to get within rifle shot of it is not difficult. Many interesting habits are given by writers on South African zoology and natural history.

KLÖDEN, klĕr'dĕn, **Karl Friedrich von,** German educator and geographer: b. Berlin, 1786; d. 1856. He received his education while apprenticed to a goldsmith; became Potsdam normal school director in 1817, and director, seven years later, in a Berlin commercial school. His chief geographical works are 'Landeskunde von Pälastina' (1816); 'Grundlinien zu einer neuen Theorie der Erdgestaltung' (1824). Pominent among his historical works are 'Ueber die Enstchung, das Alter und die früheste geschichte der Städte Berlin und Köln' (1839); 'Lebens und Regierungs geschichte Friedrich Wilhelms III' (1840); 'Die Quitzows und ihre Zeit' (3d ed., 1889). Consult 'Jugend Errin-nerungen Karl Friedrichs von Klöden,' an autobiography (Leipzig 1874).

KLOET, a volcano on the island of Java. Although among the smaller of the numerous volcanoes there, it came prominently into notice on account of its eruption in May 1901, in connection with which, besides its destructive effects, there were peculiar atmospheric phenomena.

KLONDIKE, The, a famous gold-bearing stream which enters the Yukon, the principal river of the Yukon Territory, Canada, 45 miles below the mouth of Sixty Mile Creek. In recent years the term Klondike is applied to the region surrounding the river and its tributaries, which lies between Alaska and the British possessions. As early as 1862 gold was discovered in Alaska, but no special notice was taken of it; 13 years later gold was found at the head of the Stikine River. In 1879, Juneau, a Frenchman, discovered gold in a creek which they named Gold Creek, and at the mouth of this creek founded a town first called Harrisburg and later Juneau. In 1884 a rich find was reported on Stewart River, in the Yukon district, two years afterward gold was discovered on Forty-mile River close to the international boundary.

It was not till 1897 that the wonderful riches of the Klondike region were made known through George Carmack, who went from Illinois to Alaska in 1890 and there married an Indian squaw. On 16 Aug. 1896 he discovered coarse gold on Rabbit Creek, afterward called Bonanza Creek; the discovery got wind, and immediately all the people in the neighborhood made a rush for Bonanza Creek, which was staked from source to mouth. But it was not till the following summer that the outside world knew of the discovery, when a steamer reached Seattle with a load of gold from the Klondike. In the following year there was a great rush over the Chilkoot and White Passes and down the Yukon River to the district, no fewer than 28,000 persons entering the Territory. Dawson City, the first hut in which was built in September 1896, was founded, and in six months it had 500 houses, in 1901 had a population of 9,142, which had declined in 1911 to 3,103. Towns were also built at Granville and Grand Forks, and at White Horse at the northern terminus of the White Horse Railway.

The Klondike is not far from the Arctic regions, and for seven months of the year intense cold prevails, varied by furious snow storms which begin in September and occur at intervals till May. The mean temperature at Dawson City is minus 24° in January and 60° in July. By 20 October ice is formed over all the rivers, and the gravel deposits, from which the gold is mined, remain frozen winter and summer alike, and are covered by layers, from two feet to as much as 100 in depth of vegetable mold or "muck," also frozen into a solid mass. The conditions of gold mining in this region are therefore unique. The gravel must be thawed before it can be raised; and in the early days of mining in the Klondike, two methods, "ground-sluicing and shovelling-in," and "drifting," were employed, the cost of mining running at from $10 to $25 a cubic yard. Steam-thawing was later introduced by McGillivray, a Californian mining engineer;

in some mines pulsometers are used to thaw the pay-dirt in the drifts; the mechanical movement of pay-dirt is accomplished by a self-dumping cable tram called the "Dawson carrier," which carries a bucket with a capacity of from 9 to 11 cubic feet; and gold-washing and separating plant has been installed. Many rich claims have been worked; one, the Eldorado paystreak, four miles in length, yielded gold of the value of $25,000,000, or $1,200 a running foot for the bottom of the valley. The total value of production in 1887 was $70,000, the highest yield (1900) being valued at $22,000,000. There has since been a decline in value, that for 1915 showing $4,758,098. From 1885 to 1915 (inclusive) the total production was valued at $162,233,984. See ALASKA.

KLONOWICZ, klō'no'vich, **Sebastian-Fabian,** Polish satirical poet: b. Sulmierzyce, 1551; d. Lublin, 1608. Studied at Cracow University, acquired the Latin name Acernus and established himself at Lublin, where he became burgomaster and president of the civil tribunal of the Jewish community. Of modest and virtuous character, his wife was a dissipated, vicious woman who brought him to poverty, obliging him in age to take refuge in the city retreat as an object of Catholic charity. He wrote 'Victoria deorum,' a poem concerning the ills of the poor at the hands of the rich; 'Roxolania' (1584), poem descriptive of Red Russia (Galicia); 'Flis, or the boatman navigating on the Vistula from Cracow to Danzig' (1600); 'Worek Judaszow,' or Judas purse, decrying the wicked acquisitions of the rich (1600); 'Memorial of the Dukes and Kings of Poland' (1600, 1620 and 1639). The Jesuits, against whom Klonowicz leveled so many of his satires and who helped him when in misfortune, burned all his works they could acquire, and some have become very rare.

KLOPP, klŏp, **Onno,** German historian: b. Leer, East Friesland, 9 Oct. 1822; d. 1903. He studied at Bonn, Berlin and Göttingen (1841–45), and taught at Osnabrück Gymnasium (1845–58). He shared as intimate friend the exile of King George V of Hanover (1866). Becoming Roman Catholic (1873) his aversion to the Prussians increased and is distinctly marked in his writings. Later he went to Austria. He wrote 'Die Geschichte Ostfrieslands' (1854–81), 'König Friedrich II von Preussen und die deutsche Nation' (1860; 2d ed., 1867); 'Der König Friedrich II von Preussen und seine Politik' (1861); 'Tilly im Dreissigjährigen Kriege' (1861); 'Der Fall des Hauses Stuart' (14 vols., 1875–83); 'Das Jahr 1683' (1882); 'König Georg V' (1878); 'Der Dreissigjährige Krieg bis zum Tode Gustav Adolfs, 1632' (1891–96). He also edited the correspondence of Leopold I with Father Marco d'Aviano (1888).

KLOPSTOCK, klŏp'stŏck, **Friedrich Gottlieb,** German poet: b. Quedlinburg, Prussia, 2 July 1724; d. Hamburg, 14 March 1803. He studied at the school in his native town and at Schulpforta, and later pursued the course in theology at Jena and Leipzig. He is widely famous as the author of the sacred epic, 'Der Messias,' the first three cantos of which were published in 1748. They are in the Miltonic style, and excited general attention. In consequence, Klopstock was invited to Copenhagen by the minister Bernstoff, and offered a small pension. In 1764 he wrote his drama 'Hermanns Schlacht' (Battle of Arminius), and in 1771 left Copenhagen for Hamburg, under the character of Danish secretary of legation and counsellor of the margraviate of Baden. In Hamburg he finished his 'Messias' (1773). He also wrote 'Die Gelehrtenrepublik' (The Scholar's Republic) (1744), his chief work in prose; 'Geistliche Lieder' (1758); 'Oden' (1771); and several dramas, in addition to the one already named. His reputation did not survive, but he is still known for his great service to German literature in assisting to free it from foreign, especially French, influence. His collected works were published in 12 volumes at Leipzig 1798–1817. A fine edition by Muncker appeared in 4 volumes, 1887. (See MESSIAH, THE). Consult Lyon, 'Ueber Klopstocks Verhältniss zu Goethe' (1879); Lappenberg, 'Briefe von und an Klopstock' (1867); Häbler, 'Milton und Klopstock' (1893).

KLOSS, klŏs, **Georg Franz Burkhard,** German physician and bibliophile: b. Frankfort, 31 July 1787; d. there, 10 Feb. 1854. He was the son of a doctor and studied medicine in Heidelberg and Göttingen, but soon turned to book collecting, and gathered a fine collection of old manuscripts, purchasing entire libraries of monasteries. Obtaining Masonic degrees, he started collecting books referring to Freemasonry. In 1844 appeared, at Frankfort, a bibliography of the Masonic works in his collection, another in 1846. His work 'Die Freimaurerei in ihrer wahren Bedeutung aus den alten und ächten Urkunden' reached its second edition in 1854; he published (1848) 'Geschichte der Freimaurerei in England, Ireland und Schottland,' then 'Geschichte der Freimaurerei in Frankreich' (1852–53). His magnificent library of Masonic works is now at The Hague.

KLOSTERMANN, klōs'tĕr-mạn, **August Heinrich,** German Lutheran theologian: b. Steinhude, Schaumburg-Lippe, 16 May 1837. He studied at Erlangen University and Berlin (1855–58), was assistant pastor in Bückeburg (1859–64), and was repetent and private teacher (*docent*) at Göttingen (1864–68) and has since been professor of Old Testament exegesis at Kiel. He wrote 'Vindicæ Lucanæ' (Göttingen 1866); 'Das Markus evangelium nach seinem Quellenwerthe für die evangelische geschichte' (1867); 'Untersuchungen zur alttestamentlichen Theologie' (Gotha 1868); 'Ueber deutsche Art bei Martin Luther' (1884); 'Die Bücher Samuelis und der Könige ausgelegt' (Nördlingen 1887); 'Zur Theorie der hiblischen Weissagung und zur Charakteristik des Hebräerbriefes' (1889); 'Deuterojesaia, hebräisch und deutsch' (Munich 1893); 'Schulwesen sin alten Israel' (Leipzig 1908).

KLOTZ, klŏts, **Christian Adolf,** German critic and Latin scholar: b. Bishopswerda, 13 Nov. 1738; d. Halle, 31 Dec. 1771. He studied at Leipzig and Jena; became professor of philosophy at Göttingen 1763; and professor of oratory at Halle 1765. He proved himself expert in philology through his Latin poems (collected in 'Opuscula poetica,' 1766); 'Der Ausgabe des Tyrtäoa,' (1764); numerous treatises such as 'Opuscula varii argumenti' (1766); 'Opuscula philologica et oratoria' (1772). He

got into controversy with the *Algemeinen Bibliothek*, to which he had contributed, and by his 'Ueber den Nützen und gebrauch der alten geschnittenen Steine' (1768), criticizing Lessing's 'Laokoon,' he brought forth that poet's response in the 'Briefe antiquarischen Inhalts' (1768–69). His disputes were carried on in *Acta Literaria* and *Deutschen Bibliothek der schönen Wissenschaften* (1767–72); 'Genius Saeculi' (1760) had a satirical purpose, as also had his 'Mores Eruditorum' and 'Opuscula Latina' (1760). Consult Hausen, 'Leben und Charakter Herrn Klotz' (Halle 1772); Hagen, 'Briefe deutschen gelehrten an Klotz' (1773); Sandys, 'A History of Classical Scholarship' (Cambridge 1903–08).

KLOTZ, Louis Lucien, French statesman: b. Paris, 11 Jan. 1868, of Alsatian descent. Educated as advocate, he founded in 1888 the *Vie Franco-Russe*, in 1892 edited the *Voltaire*, and in 1895 established the *Francais Quotidien*. After two unsuccessful attempts, he was elected in 1898 as radical socialist to the French legislature, being prominent since that date in French politics, and many terms Minister of Finance, which position he now holds. In 1914 on the outbreak of the Great War Klotz was made head of the Press Department of the Ministry of War. In 1919 he was appointed one of the French delegates to the Peace Conference.

KLOTZ, klōts, or **CLOTZ, Matthias,** Tyrolese violin-maker: b. about 1640; d. about 1696. He was a pupil of Jakob Stainer at Abson near Innsbruck, there established himself, and made violins much in Stainer's manner, so that only the less metallic tone of Klotz's instruments offers a distinguishing feature. His violins range in date from 1675 to 1696.

KLOTZ, Reinhold, German philologist: b. Stollberg, 13 March 1807; d. Kleinschacher, near Leipzig, 10 Aug. 1870. He studied at Leipzig and became assistant professor there (1832), and, in 1849, full professor. He was one of the editors (1831–55) of 'Neuen Jahrbücher für Philologie,' and produced editions of the Greek 'Gallus' and 'Clement of Alexandria,' 'Euripedes' (1840–60); also working on Davarius' 'Liber de Græcæ Lingua particulis' (1835–42). In the Latin he made complete editions of Cicero (1851–56); Terence (1838–40); Andria, Nepos, etc. He worked with Lübker and Hudemann on a Latin dictionary (1847–57). Consult Jahn, 'Jahrbuch' (1871).

KLÜBER, klu'ber, **Johann Ludwig,** German law professor, author and state official: b. Tann, near Fulda, 10 Nov. 1762; d. Frankfort, 16 Feb. 1837. He became professor of law at the University of Erlangen (1786), privat-referendar, state and cabinet counsel, in Karlsruhe (1804), and professor of law at Heidelberg (1807). During the congress at Vienna (1814–15), by government permission, he resided there and published 'Akten des Wiener Kongresses in den Jahren 1814 and 1815' (8 vols.); an enlarged edition was published 1830 under the title of 'Quellensammlung zu dem öffentlicchen Rechte des Deutschen Bundes.' Under von Hardenberg, chancellor of state, he became privy councillor in the Ministry of Foreign Affairs (1817) and, under its auspices he assisted in the congress at Aix-la-Chapelle (1818), and in political negotiations in Frankfort and Saint Petersburg. In 1822 he published the second edition of his 'Öffentlichen Rechto des Deutschen Bundes,' which brought on political persecution, his resignation and retirement to Frankfort, where he died. Other prominent works are 'Staatsrecht des Rheinbundes' (1808); 'Die Selbständigkeit des Richteramtes und die Unabhängigkeit seiner Urteile in Rechtsprechen' (1832); 'Pragmatische Geschichte der nationalen und politischen Wiedergeburt Griechenlandes' (1835).

KLUCK, klůk, **Alexander H. R. von,** German general: b. Münster, Westphalia, 20 May 1846. He entered the army in 1865 and served in the Austrian campaign of 1866 and the Franco-German War, 1870–71. In the latter he was twice wounded at Metz and awarded the Iron Cross (second class) for bravery. At the opening of the European War he commanded the First German Army (the right wing) in the invasion of Belgium and the subsequent drive on Paris. Von Kluck had long been regarded as one of the best infantry leaders in the German army. Starting from Aix-la-Chapelle, he marched through Visé, took Brussels and Louvain, fought the battles of Mons and le Cateau, and finally came almost into touch with the outer defenses of Paris. Instead, however, of moving straight on to the French capital from Senlis, he turned in a southeasterly direction, leaving Paris and the British forces on his right. This unexpected move led to what has been called the turning-point of the war. Unknown to von Kluck, General Joffre had placed a new French army under Maunoury at the left of the British, and another army under Foch at the right, adjoining the command of Franchet d'Esperey, which stood immediately on the British right. Maunoury attacked von Kluck on his exposed flank and caused that gap in the German line into which General Foch threw all his strength, thereby deciding the battle of the Marne and forcing the Germans to retreat beyond the Aisne. Most military writers maintain that the strategy of von Kluck was responsible for the breakdown of the original German plan of campaign. Toward the end of March 1915, while inspecting an advanced position, he was struck by shrapnel, which caused seven wounds. Shortly afterward he received the Order Pour le Mérite. In October 1916 the *Militär Wochenblatt* announced that Field-Marshal von Kluck had been placed on half-pay, in accordance with his request to be allowed to retire. His son, Lieutenant Egon von Kluck, was killed early in 1915. See FOCH, GENERAL; WAR, EUROPEAN: BATTLE OF THE MARNE.

KLUCKHOHN, klook'hōn, **August,** German educator and historian: b. Bavenhausen, 6 July 1832; d. Munich, 19 May 1893. He studied at Heidelberg and Göttingen; and in 1850 became editor at Munich of a critical division of von Sybel's 'Historischen Zeitschrift.' After acting as teacher (*docent*) in Munich University from 1860, in 1865 he was made full professor and was professor in the technical high school in 1869. He was appointed professor of history in Göttingen University in 1883. He wrote 'Die Geschichte des Gottesfriedens' (1857); 'Wilhem III, Herzug von Beyern-München' (1861); 'Ludwig der Reiche,

Herzog von Bayern-Landshut' (1865); 'Friedrich der Fromme, Kurfurst von der Pfalz' (1876); 'Luise Königin von Preussen' (1876); 'Blücher' (1879). He published 'Ueber L. von Westenrieders Leben und Schriften' (1890). His 'Vorträge und Aufsätze' (1894) was issued as a posthumous work by Heigel and Wrede, Munich.

KLUGE, kloo'gĕ, **Friedrich,** German philologist and educator: b. Cologne, 22 June 1856. He studied philology and Germanics in Leipzig, Strassburg and Freiburg; became teacher of English and German philology at Strassburg (1880), assistant professor at Jena in 1884, full professor in 1886, and in 1893 was appointed professor of German language and literature at Freiburg. He wrote 'Etymologisches Wörterbuch der deutschen Sprache' (1881, 7th ed., 1910); 'Stammbildungslehre der altgermanischen Dialekte' (2d ed., 1899); 'Von Luther bis Lessing, sprachgeschichtliche Aufsätze' (4th ed., 1904); 'Angelsächsiges Lesebuch' (3d ed., 1902); 'Deutsche Studentensprache' (1895); 'English Etymology' (in collaboration with F. Lutz, 1898); 'Rothwelsch, Quellen und Wortschatz der Gaunersprache' (1901); 'Mittelenglisches Lesebuch' (glossary by Kölbing, 1904; 2d ed., 1912). For Paul's 'Grundriss der altgermanischen Philologie' he wrote 'Vorgeschichte der altgermanischen Dialekte' (1897) and 'Geschichte der Englischen Sprache' (1899). In 1900 he founded the *Zeitschrift für deutsche Wortforschung.*

KNABL, knä'b'l, **Joseph,** Austrian sculptor: b. Fliess, Tyrol, 17 July 1819; d. Munich, 3 Nov. 1881. As son of a peasant he learned carving with F. Renn in Imst. He went to Munich in 1836 and studied wood-carvings of the Middle Ages under J. Otto Entres and, later, Sickinger, when he worked on images of saints. Working independently from 1842, he created the heroic size group 'Baptism of Christ' for the Mergentheim Church, Württemberg (1852); several statues for the cathedral altar at Augsburg (1854); 'Christ and the Apostles,' a life-sized group for the high altar at Velden, Lower Bavaria (1855). His group of Saints Ann and Mary for the Eichstätt Cathedral was awarded a prize at the Munich Exposition in 1858. His chef-d'œuvre is considered to be a 'Coronation of Mary' for the Munich Frauenkirche high altar. He was appointed professor of sculpture (1862) in the Munich Academy.

KNACKFUSS, knack'foos, **Hermann,** German artist and writer on art: b. Wissen, Rhenish Prussia, 11 Aug. 1848. He studied in the Düsseldorf Academy (1865–69); went through the Franco-Prussian War (1870–71); then continued art study under E. Bendemann, later under E. von Gebhardt. He won the state prize (1874) which paid for his studies at Rome (1875–78). He taught anatomy in the Cassel Academy (1880) and history of art (1890). His noted works are 'Battle of Mühldorf' (belonging to the Kaiser); 'Battle of Turin,' in Berlin Zeughaus; mural decorations in the Potsdam Treppenhaus of the officers' casino; 'Entry of the Kaiser and Kaiserin into Jerusalem' (1902); a 'Holy Family' altar picture in the Fulda Cathedral (1893); mural decorations in the Wohlau (Silesia) Gymnasium. He is author of the following works, among others: 'Deutsche Kunstgeschichte' (1888); for the serial *Kunstlermonographien* he has contributed articles on Raphael, Rembrandt, Rubens, Michelangelo, Dürer, Murillo, Holbein, Titian, Velazquez, Frans Hals, van Dyck, Menzel, etc.

KNAPP, knäp, **Albert,** German clergyman and poet: b. Alpirsbach, 25 July 1798; d. Stuttgart, 18 June 1864. He studied theology at Tübingen, became vicar in Feuerbach (1820) and filled other positions till he made a reputation in the Hospitalkirche at Stuttgart (1836). Was archdeacon in the Stiftskirche (1839), later to become Stadtpfarrer. His poetry was of a religious character chiefly; among his works are 'Christliche gedichten' (1829); 'Neuern gedichte' (1834); the cycles, 'Hohenstauffen' (1839); 'Bilder der Vorwelt' (1862); and in hymnology, 'Evangelische Liederschatz für Kirche und Haus' (1837). He wrote 'Das Leben von Ludwig Hofacker'; 'Gesammelten prosaischen Schriften' (1870–75; published posthumously). Consult Gerok, K., 'Albert Knapp' (Stuttgart 1881); Knapp, A., 'Knapp als Dichter und Schriftsteller' (Tübingen 1913).

KNAPP, näp, **Charles,** American philologist: b. New York, 22 June 1868. He was graduated at Columbia University (1887), took the degree Ph.D. (1890) and was prize fellow in classics (1887–90). He became tutorial fellow in Latin (1890–91) and was appointed instructor in Latin and Greek (1891–1902), adjunct-professor of classical philology (1902–06), and was made professor in 1906. He became editor of the Columbia University *Classical Weekly* in 1907. He wrote 'Stories from Aulus Gallius' (1895); 'Selections from Viri Romae' (1896), in collaboration with R. Arrowsmith; 'The Æneid of Virgil' (1901, books I–VI, selections VII–XII). He has contributed many articles on classical subjects to periodicals and encyclopedic works.

KNAPP, George Friedrich, German economist and educator: b. Giessen, 7 March 1842. He studied in Munich, Berlin and Göttingen, and in 1867 became director of the Statistical Bureau of Leipzig. Two years later he was appointed assistant professor of economics and statistics in the University of Leipzig and in 1874 professor of political economy in Strassburg University. His writings dealing chiefly with population and agricultural topics include 'Ueber die Ermittelung der Sterblichkeit' (1868); 'Die Sterblichkeit der Sachsen' (1869); 'Theorie des Bewölkerungswechsels' (1874); 'Die Bauernbefreiung und der Ursprung der Landarbeiter in den alteren Teilen Preussens' (1887); 'Die Landarbeiter in Knechtschaft und Freiheit' (1891); 'Grundherrschaft und Rittergut' (1897). In 1886 he founded the periodical *Abhandlungen aus dem staatswissenschaftlichen Seminar zu Strassburg.*

KNAPP, Hermann, German-American physician: b. Dauborn, 17 March 1832; d. 1911. He studied in Munich, Würzburg, Berlin, Leipzig, Zürich, Vienna, Paris, London and Utrecht, and was appointed private teacher (docent) at Heidelberg (1860), becoming professor of ophthalmology at the university (1865). Com-

ing to America he founded (1869) the New York Ophthalmic and Aural Institute, and was made professor (1882) of the New York University Medical College. He was appointed professor of ophthalmology (1888) at the College of Physicians and Surgeons, Columbia University, and (1902) emeritus professor. He did valuable service in optical surgery and wrote many valuable treatises on his special subjects, the eye and ear. Among his works are 'Die Krümmung der Hornhaut des menschlichen Auges' (Heidelberg 1860); 'Die intraokularen geschwülste' (Carlsruhe 1868); 'Cocaine and its Use' (New York 1885); 'Investigations on Fermentation, Putrefaction and Suppuration' (ib. 1886); 'Cataract Extraction without Iridectomy' (ib. 1887). In collaboration with Moos, he published *Archives of Ophthalmology and Otology*, from 1869, in English and German.

KNAPP, Martin Augustine, American judge: b. Spafford, N. Y., 6 Nov. 1843. He was graduated at Wesleyan University, Connecticut (1868), received the degree of LL.D., and was admitted to the bar (1869), being appointed corporation counsel (1877–83) in Syracuse. In 1891 he was appointed interstate commerce commissioner by President Harrison, reappointed (1897) by President Cleveland, and again reappointed (1902) by President Roosevelt, becoming chairman of the commission from 1898. Under the Erdman Act as ex officio mediator, he assisted in the work of settlement of numerous labor disputes. He was appointed by President Taft additional circuit judge and assigned for five years to the United States Commercial Court as presiding judge, entering office 31 Dec. 1910, but immediately resigning. He was appointed a mediator for two years from 4 March 1911, becoming member of the Board of Mediation and Conciliation under the Newlands Act (1913), by appointment of President Wilson. On the dissolution of the Commerce Court (13 Dec. 1913) he was assigned by the chief justice to the Circuit Court of Appeals, 4th Judicial Circuit He is member of the American Academy of Political and Social Science, the American Economic Association, American Political Science Association, National Geographical Society, etc.

KNAPP, Samuel Lorenzo, American lawyer and author: b. Newburyport, Mass., 19 June 1774; d. Hopkinton, Mass., 8 July 1838. He was educated at Phillips Academy and graduated at Dartmouth College (1804). He studied law under Chief Justice Theophilus Parsons, at Newburyport and quickly achieved a reputation as an eminent counsellor and as active member in the State legislature. In the War of 1812 he commanded a regiment of State militia on the coast; became editor of the *Boston Monthly Magazine* and established (1826) the *National Republican*, but went to New York after two years to practise his profession. He was given the degree of LL.D. from the Paris College. He wrote 'The Bachelor and other Tales' (1836); 'American Biography' (1833); 'Travels in North America, by Ali Bey' (1818); 'Life of Aaron Burr' (1835); 'Life of Andrew Jackson' (1835); 'Memoirs of General Lafayette' (1824).

KNAPSACK, a bag or case of leather or strong cloth, used by soldiers, tourists and other travelers for carrying light personal baggage. Knapsacks are made in various styles, and are usually strapped to the back.

KNAUS, knous, **Ludwig,** German painter: b. Wiesbaden, 5 Oct. 1829. From 1845 to 1852 he studied art at Düsseldorf under Sohn and Schadow, but soon shook himself free from their influence and started on a path of his own. He chose scenes from country life and in 1850 painted 'The Country Dance'; 'The Players,' now in the gallery at Düsseldorf, a replica being in the gallery of Leipzig. His early pictures in this style were received with favor, although characterized by the dark, dull coloring of the Düsseldorf school. In 1852 he went to Paris, and resided there for eight years, which were fruitful in many well-known pictures of his early style, 'The Golden Wedding' (1858); 'The Baptism' (1859); and 'Starting for the Dance.' Returning to Düsseldorf in 1866, he remained there for eight years, during which period he produced the pictures on which his reputation as a genre painter is chiefly founded. Among these are 'The Child's Party' (1869), in the Berlin National Gallery; 'Funeral in a Hessian Village' (1871); 'The Goose-Girl' (1872). These works are distinguished by naturalness and naïveté, by delicate humor, mastery of detail, lifelike coloring and vivid expression. After his appointment to the direction of a studio in the Art Academy at Berlin he reached his latest manner, which was formed largely by his study of the Dutch school, from which he acquired his final skill as a colorist. His pictures, however, no longer showed the naïveté, the directness of his earlier productions; which were replaced by thoughtfulness and a striving after the didactic or admonitory. The most remarkable paintings of this period are 'The Holy Family' (1876); 'Tavern Scene — Bad Ways' (1876); 'The Refractory Model' (1877), etc. He has also painted many portraits combining the picturesqueness of genre with lifelike expression. Among his miscellaneous works are his designs in Watteau style for room decorations, his lead pencil sketches and aquarelles. Very many of his works have been reproduced by photography or engraving. Consult Pietsch in 'Künstlermonographien' (Bielefeld 1896), and id., an album of Knaus' work, published by the Berlin Photographic Society.

KNEBEL, knā'bĕl, **Karl Ludwig,** German translator and poet: b. Wallerstein Castle, Franken, 30 Nov. 1744; d. Jena, 23 Feb. 1834. He studied law in Halle, was officer in a Potsdam regiment (1765–73), tutor to Prince Constantine at Weimar from 1774. During a trip to Paris with his princely pupil and the Crown-Prince Karl August, he visited the poet Goethe at Frankfort and introduced his royal companions. He retired in 1779 on a pension with the rank of major and lived in intimate and close fellowship with the gifted Weimar group of contemporaries: Goethe, Schiller, Herder, Wieland, Duke Karl August, etc., in Weimar, Ilmenau and Jena. As poet his best-known works are 'Sammlung kleine Gedichte' (1815); 'Distychs' (1827); but better known are his translations, such as 'Elegien des Properz' (1798); 'Lucretius' (1821); Alfieri's 'Saul' (1829). His 'Correspondence with

Goethe' (Leipzig 1851, 5 vols.); 'Letters from Duke Karl August of Saxe-Weimar-Eisenach' (ib. 1883); and a collection 'From Knebel's Correspondence with his Sister Henrietta' (Jena 1858), all afford very interesting light on the social culture of the noted period at the court of Weimar.

KNEE JERK, or **PATELLAR REFLEX,** a useful reflex test in diagnosis. When the leg is resting in an easy position, crossed over the other leg, for instance, a sharp blow given to the patella (knee-cap) tendon causes a sudden jerking forward of the leg. This action is brought about by a contraction of part of the quadriceps of the femur bone. This sudden extension of the leg is known as "knee-jerk" and it is generally considered as a reflex action and is often tested for the symptoms of disease, the action being restricted in cases of locomotor ataxia, lead poisoning, chronic alcoholism, and even absent in severe cases, while in other diseases as neurasthenia, hemiphlegia, spastic paraphlegia, etc., the kick becomes abnormally extended.

KNEELAND, nē'lănd, **Abner,** American theologian and deist: b. Gardner, Mass., 6 April 1774; d. Farmington, Iowa, 27 Aug. 1884. He was at first Baptist, then entered the Universalist ministry, but later became deist. He edited Universalist literature at Philadelphia and New York, then went to Boston where he founded (1831) the *Investigator.* His expressed tenets brought him into the Boston Supreme Court (1836) where he was given a short sentence of imprisonment as guilty of blasphemy. He wrote 'The New Testament in Greek and English' (Philadelphia 1822); 'Lectures on the Doctrine of Universal Salvation' (1824); 'A Review of the Evidences of Christianity' (New York 1829). Consult Kneeland, A., 'Review of the Trial, Conviction and Final Imprisonment . . . of A. Kneeland' (Boston 1838); Parker, S. D., 'Report of the Arguments of the Attorney . . . at the Trial of A. Kneeland' (ib., 1834); 'Review of the Prosecution against A. Kneeland' (in *Cosmopolite,* ib. 1853).

KNEELAND, Samuel, American naturalist: b. Boston, Mass., 1 Aug. 1821; d. Hamburg, Germany, 27 Sept. 1888. He was graduated from Harvard in 1840, practised medicine in Boston 1845–50, and was an army surgeon during the Civil War. In 1866 he became professor of zoology and physiology in the Massachusetts Institute of Technology. He was a member of numerous scientific societies, and in addition to editing 'The Annual of Scientific Discovery' (1886–89), a translation of 'Andry's Diseases of the Heart' (1847), and Smith's 'History of the Human Species,' he wrote 'Science and Mechanism' (1854); 'The Wonders of the Yosemite Valley and of California' (1871); 'An American in Iceland' (1876); 'Volcanoes and Earthquakes' (1888).

KNEIPP, knīp, **Sebestian,** German clergyman: b. Stefansried, Bavaria, 17 May 1821; d. Worishofen, Swabia, 17 June 1897. He studied theology at Dillingen and Munich, became a Roman Catholic priest in 1852 and pastor at Worishofen in 1881. He became known for the "Kneipp cure," which he advocated for years. This method was based on water, fresh air, sunshine and a scheme of regular activity, and included walking barefoot in dew-moistened grass and on snow. Kneipp wrote 'Meine Wasserkur' (1887; Eng. trans. 1891); 'Mein Testament' (1894); 'Vorträge in Wörishofen' (1894–98); and other works. His collected works were published at Kempten (1898–99). Consult Verus, 'Vater Kneipp, sein Leben und Wirken' (Kempten 1897).

KNEISEL, nī'zĕl or knī'zĕl, **Franz,** German-American musician: b. Rumania, 26 Jan. 1865. He was a pupil in violin-method of Grün and Hellmesberger, became concert-master of the orchestra at Hofburg Theatre of Vienna, of Bilse's orchestra at Berlin, and later (1885) of the Boston Symphony Orchestra. He appeared prominently with the Symphony as solo violinist and in 1886 organized under his leadership the Kneisel quartet for chamber-music, in which he played the first violin part. This quartet, all of whom were also members of the Symphony, withdrew from the latter in 1903 to undertake an extensive tour. Several European tours were undertaken with success. He removed to New York where since 1905 he is chief of the violin department of the Institute of Musical Art. He was member of the jury of the violin competition at the Paris Conservatory. He received the degree of Mus.D. from Yale in 1911 and from Princeton in 1915. He has compiled 'The Kneisel Collection for Violin and Piano' (3 vols., 1900) and composed 'Advanced Studies for the Violin' (1910) and a concert etude.

KNELLER, nĕl'ĕr, Sir **Godfrey,** originally Gottfried Kniller, Anglo-German portrait painter: b. Lübeck, 8 Aug. 1646; d. Twickenham, England, 7 Nov. 1723. He studied under Bol and Rembrandt at Amsterdam. He visited Italy in 1672, where he studied under Maratti and Bernin and painted several historical pieces and portraits, both at Rome and Venice. On his return he visited England, in 1674, and was introduced to Charles II, by whom he was much patronized and thereby enabled to quickly outstrip Lely (q.v.) in popularity. He was equally favored by James II, William III and Queen Mary, for the latter of whom he painted the "beauties" at Hampton Court, and several of the portraits in the Gallery of Admirals. He also painted the portraits of the Tsar Peter the Great, Louis XIV and Charles VI of Spain for the same sovereign, who in 1692 knighted him and made him gentleman of the privy chamber. Queen Anne continued him in the same office, and George I, in 1715, made him a baronet. There was hardly a person of note, at least resident in or visiting England, of whom he did not paint a portrait. Among his works should be mentioned also a series of 43 portraits of his co-members in the famous Kit-Cat-Club. He continued to practise his art to an advanced age. Naturally his earnings were very large. Although he lost a good deal of money in the South Sea Bubble and lived in great style, both in London and on his estate, Kneller Hall near Twickenham — now an army college for military musicians — he left a large fortune. He left money and instructions for a splendid monument to himself in Westminster Abbey, erected by Rysbrack in 1729, which bears an epitaph by Pope. His coloring is true and harmonious and his drawing correct, but he dis-

plays a great want of imagination in his pictures, the attitudes, action and drapery being insipid, unvarying and ungraceful. Many of the portraits bearing his name were only partly painted by himself, the less important portions being done by assistants. His fame has declined considerably as time passed, a natural enough fact considering the great superiority possessed by later English portrait painters, such as Reynolds, Gainsborough, etc. His work can be studied to greatest advantage at Hampton Court and in the National Portrait Gallery, London. Comparatively few of his paintings are owned outside England, though there are specimens in the galleries at Antwerp, Brunswick, Munich and Vienna. Consult Ackermann, W. A., 'Der Porträt-Maler Sir G. Kneller im Verhältuiss zur Kunstboldung Seiner Zeit' (Lübeck 1845); Anon., 'Lely and Kneller' (in *Munsey's Magazine*, Vol. XVII, p. 542, New York 1897); Baker, C. H. C., 'Lely and the Stuart Portrait Painters' (2 vols., London 1912); Buckeridge, B., 'Life of Sir G. Kneller' (in Piles, R. de, 'The Art of Painting,' 3d ed., London 1750).

KNESEBECK, knā'zĕ-bĕk, **Karl Friedrich von dem,** Prussian general field marshal: b. Karwe, near Neuruppin, 5 May 1768; d. 12 Jan. 1848. He entered the army (1782) and gained distinction in the campaigns of 1792–94 and was made captain (1799), major (1802), being on the general staff at Auerstadt (1806), when he saved the king from being taken prisoner. He drew up the plan of battle at Pultusk (1806) in the Russian campaign but retired, at the Treaty of Peace of Tilsit, to his estate. He was sent (1809) on a diplomatic mission to Austria during the Franco-Austrian War and went on a mission to Russia in the winter of 1811–12, advising peace. He was made general-adjutant to the king in 1813 and carried on the negotiations with Austria for a coalition, failing which he took a prominent part in the plan of action, hindering the bold schemes of Blücher and Gneissenau. He was a prominent figure in the continuation of the campaign (1813–14) and in the plan of action. In 1847 he was appointed commander-general of the army of observation against Poland, and, on his retirement, was created field-marshal. His memoirs are said to be unreliable. He wrote also 'Lob des Kriegs' (1805), a poem which had great popularity. Consult Dunker, 'Die Mission des Obersten von dem Knesebeck' (in *Abhandlungen zur preussischen Geschichte*, Leipzig 1876); Lehmann, M., 'Knesebeck und Schön' (ib. 1875).

KNIAZHNIN, knyäzh-nĕn, **Jakov Borisovich,** Russian littérateur and dramatic author: b. Pskov, 3 Oct. 1743; d. 14 Jan. 1791. He was educated in the University of Saint Petersburg, entered the army, where, however, he stayed only a short time, and for a number of years was connected with the civil service. In 1783 he became a member of the Russian Academy at Saint Petersburg. Of his tragedies the majority are but imitations of French plays, containing with the exception of one or two nothing original. His comedies are replete with bright passages and full of spirit. The tragedies most worthy of mention are 'Didon' (1769); 'Vladimir i Iaropolh' (1779); 'Vladisan' (1786); 'Roslav' (1784); 'Vadim Novgorodskii' (1789). The two last were patriotic plays, some of the passages of the 'Vadim' being of such a character as to alarm Catharine II and cause its suppression, but it was published in 1793, two years after the death of the author. Of his comedies the most noteworthy are 'Khvastum'; 'Chudakhi'; and the light opera 'Neschastie ot Karety.' A complete edition of his works, in four volumes, was published in 1787, several subsequent editions being published in two volumes in 1847–48.

KNICKERBOCKER, nĭk'ĕr-bŏk-ĕr, the cognomen of an old Dutch burgher family of colonists in New York. The word has been used colloquially for many years as expressive generically of the old elite resident families of New York City, but more properly restricted to the persons descended from the old Dutch settlers of Manhattan Island. Washington Irving, in his 'History of New York' (1809) names the author as "Diedrich Knickerbocker."

KNICKERBOCKER, Herman, American lawyer and legislator: b. Albany, N. Y., 27 July 1782; d. Williamsburg, N. Y., 30 Jan. 1855. He studied law at Albany, N. Y., was admitted to the bar in 1803 and entered practice in Albany. In 1809–11 he was a Federalist representative from New York in the 11th Congress, in 1816 was elected to the New York State Assembly from Rensselaer County, and for some time also held the office of county judge. He became a Democrat during Jackson's administration. Through his hospitality he was known as "Prince Knickerbocker."

KNICKERBOCKER HISTORY OF NEW YORK, The. Knickerbocker's 'History of New York from the Beginning of the World to the End of the Dutch Dynasty,' planned and partly written by Peter and Washington Irving together, was later replanned by the younger brother, entirely executed by him and published in 1809 under the whimsical pretense of being by an eccentric Dutch antiquary, Diedrich Knickerbocker. It was originally meant to be a mere skit by which two gay young men might poke fun at their fellow-townsmen, but it grew unconsciously into a full-bodied masterpiece of good-humored satire which established the settlers of an obscure Dutch colony as permanent citizens of the wider world of historical legend. Irving did not derive from facts his conception of the first New Yorkers, nor did he invent it; he merely followed a tradition current in British satire since the wars with Holland in the 17th century. The idea of writing burlesque history, too, was not novel. Moreover, Book I of the Knickerbocker 'History,' with its parodies of pedantic learning, belongs rather with the plan relinquished than with the mature performance. But Irving's indebtedness and his halting overture only slightly modify the credit due him for his comic masterpiece. Hearty affection for New York, tenderness toward any past with a touch of myth in it, natural mellowness of language — these lend substance to a gay and impudent wit. In the third book, which deals with the unforgettable Wouter Van Twiller and the manners of his reign, Irving is at once brilliant and charming. The books recording the deeds of Peter Stuyvesant are even more spirited, particularly in the passages of mock-heroic, which are hardly to be matched else-

where in English. Illustrations for the 'History' have been made by Allston, Leslie, Jarvis and Darley.

CARL VAN DOREN.

KNIFE. A cutting tool of steel, german-silver, silver, gold, bone, horn, wood or other material. According to the purposes for which it is constructed it is called bread-knife, penknife, table-knife, erasing-knife, paper-knife, butchers'-knife, etc. Knives can be divided into two broad classifications as having blades that fold into or onto the handle and those that have fixed blades. The essential parts of a knife are its blades and its handle (known as a *haft*); exceptions to the rule are those consisting solely of a blade, as those used by furriers, cigarmakers, etc. The knife haft generally consists of wood, bone, ivory, horn, metal, mother-of-pearl, etc. For the technical make-up of knives see under article CUTLERY.

History.— In its most primitive form the knife was formed from a piece of flint or other stone. The chipped and polished flint knives of the Stone Age (many are extant) are frequently wonderfully formed and show consummate skill in construction. They have keen, practical cutting edges, the ends usually pointed. These are found in nearly all parts of the globe. With the discovery of bronze (Bronze Age), knife blades were among the earliest utensils to be made from this metal. These are found in numbers in the ancient prehistoric "lacustrian" villages of Switzerland, some being fastened to handles of the same metal. In the antique classical period knife blades were made of bronze, iron and copper; the copper being hardened, probably by hammering. In ancient Rome bronze knives were reserved for religious rites. The hafts (handles) of this period are found in ivory, bone or bronze and of varying forms, sometimes the blades of these early knives folded into a groove in the handle. Some were carried in a sheath hung from the belt; the Gallo-Romanesque tombs furnish such, the exterior being of wood and the inside of iron. The ancient sacrificial knife often figures on carved monuments. While a few of the early Greeks used knives at meals, it was usual to serve the meat and other foods cut up, the guests picking up the viands with their fingers and tearing it up with their teeth. For cutting up fruit they used bone knives; they also knew the use of hunting knives. In the 1st century B.C. the Chinese used copper knives as coins, known as *Dau tsien*.

The Franks (Germanic tribes, about 240 A.D.) carried an iron knife suspended from the belt, often enclosed within the same sheath as the dagger. In the Middle Ages steel-bladed knives appear, toward the 14th century. Sheffield, England, was the centre of a steel industry and Langres, France, was renowned, as well as Moulins, already for their steel knives in 1427. By the 17th century the blades were often decorated with chased and gold inlaid designs. Knife handles of that period are found in ivory, bone, mother-of-pearl, silver, copper, steel, and wood. By the 16th century knife handles often assume the form of figurines or caryatids. During the Middle Ages one of the luxuries of the *seigneurs* consisted of having a table service of knives of which the handles varied according to the period of the liturgical year; the ebony handles were reserved for the period of Lent, those of ivory for Easter. Knives were employed in battle; the French termed them, in the 15th century, *couteaux de brèche*. Knives figuring among the knights were often highly decorated; that of Louis le Bon (extant) has its handle of hardwood ornamented with bands of silver-gilt and enamels. On the handles were initials, ciphers, the owners' coats-of-arms; enamel work, inlaid precious stones vie with arabesques and engravings in the decoration. The knight's knife was generally in a sheath or scabbard. The knife sheath in Bamberg Castle dates back, probably, to the 10th century and is, perhaps, the oldest extant; it is of ivory with metal ornamentation. The hunting knife of the Middle Ages (the *couteau de chasse* of the French) was a most elaborate equipment and consisted of a highly decorated sheath containing, besides the heavy-bladed huntsman's knife for killing the game and cutting it up, a set of smaller utensils arranged around it in the sheath. These latter were three small knives, a fork and a *bodkin*. In the sheath or case for use at table there were three knives: one large one called a *trencher* knife (*couteau à trancher*) for cutting into slices or pieces (*tranche*) of which the very large blade terminated in a crescent-shaped point with which to pick up the pieces and serve on the guests' plates; another large knife with two cutting edges; a smaller knife that was placed in front of the host. A favorite method of decorating leather sheaths in the 14th and 15th centuries was to burn or brand designs on the outside. In the refectories of the convents they used knives whose blades had engraved on one side the Benediction and on the other side "Dei Gratias" (*grace* after meals), the musical notes of the chant being cut into the metal. The oyster knife appeared as early as the 16th century. As to folding knives, after being already known to the Romans they probably never went out of use entirely; we read in an inventory of 1380 of "a little knife, of silver handle shaped like a lily, of which the blade folds back into the handle." Clasp or spring knives came into common use in middle of the 17th century. The large strong, clasp knife is frequently termed a "Jack" knife; this kind of knife is said to have been introduced into England during the reign of James I (early 17th century) and to have received its name from this fact; it had no spring but the blade closed into the haft. See also CUTLERY.

CLEMENT W. COUMBE.

KNIFE MONEY, a bronze currency in the form of knives long in use in China. These money knives were often highly ornamented and each bore on the blade hieroglyphical markings which indicated its value in the money market. The handle of the knife money was usually in the form of a disk in the centre of which there was a circular hole by means of which it was strung on a string with other similar money. See NUMISMATICS.

KNIGGE, Adolphus Francis Frederic Louis, BARON DE, German author: b. Brendenbeck, near Hanover, 16 Oct. 1752; d. Bremen, 6 May 1796. In 1769 he went to the University of Göttingen, where he studied law, later became assessor at Cassel, in 1777 was made a chamberlain at Weimar, and finally in 1791,

after leading a very unsettled life, became a resident of Bremen. Here he joined the Illuminati and later became implicated in the disputes relating to that secret order. Of his writings by far the most important is his 'Ueber den Umgang mit Menschen' ('On Intercourse with Men), which contains much good advice and a collection of upright methods of living so as to get the greatest joy and happiness at the same time being useful. Of his other works those most read were 'Der Roman meines Lebens' (1781–87); and 'Die Reise nach Braunschweig' (1792), a humorous romance; and 'Des seligen Etatsrates von Schafskoff hinterlassene Papiere' (1792). Consult Goedeke, 'Adolf Freiherr Knigge' (1844).

KNIGHT, Austin Melvin, American rear-admiral: b. Ware, Mass., 16 Dec. 1854. He was graduated at the United States Naval Academy (1873) and commissioned ensign (1874), promoted to master (1879), lieutenant, junior grade (1883), and made lieutenant in 1885, becoming lieutenant-commander in 1889 and commander in 1907. He became captain in 1907 and rear-admiral in 1911. He served on the *Tuscarora* on the Pacific station (1873–74); on the *Kearsarge* on the Asiatic station (1874–75). In 1876 he was appointed to the Naval Academy, later serving on the *Quinnebaug* on the European station (1878–79); on the *Galena* on the European and Atlantic stations (1880–83). He was stationed at the Minneapolis ordnance proving ground (1883–85) and had charge of same from 1885–89. He served on the flagship *Chicago* on the North Atlantic, European and South Atlantic stations (1889–92), and was at the Naval Academy from 1892–95. From 1895–97 he served on the *Lancaster* and *Castine* on the South Atlantic station, and on the *Puritan* on the North Atlantic station from 1897–98. In the Spanish-American War he assisted in the blockade of the north coast of Cuba, and in the Porto Rican expedition. He was stationed (1898–1901) at the Naval Academy and at the War College (1901). He commanded the *Yankton* on the survey of Cuba's south coast (1901–03), and on the *Castine* on the North Atlantic squadron (1903–04), and presided over a special board on naval ordnance and on a smokeless powder board (1904–07). He commanded on the *Washington* from 1907 to 1909, later was commander at Narragansett Bay, R. I., station, and commandant of same and president of Naval War College from 1913–1917; and in 1917 he was appointed commander-in-chief of the Asiatic fleet with rank of admiral.

KNIGHT, Charles, English editor and publisher: b. Windsor, 15 March 1791; d. Addlestone, Surrey, 9 May 1873. He succeeded his father as a bookseller in Windsor, and for several years edited a Windsor newspaper. Having removed to London in 1823, he established *Knight's Quarterly Magazine,* in 1827 undertook the superintendence of the publications of the Society for the Diffusion of Useful Knowledge, for which he superintended and published the 'Library of Entertaining Knowledge'; the *Penny Magazine* and the 'Penny Cyclopædia,' afterward remodeled as the 'English Cyclopædia,' etc. Other publications of his were the 'Pictorial Bible,' the 'Pictorial Prayer-book,' 'Pictorial Shakespeare' and many others. The Shakespeare (8 vols., London 1839–43) was edited by Knight himself, and has, both for its text and notes, taken a high place among editions of the great dramatist. It went through many editions, and was published in the United States as 'The Stratford Shakespere' (5 vols., New York 1881). The most important of his own writings, the 'Popular History of England,' appeared 1854–61 (1st American edition, 4 vols., New York 1881). His autobiography, 'Passages of a Working Life During Half a Century' (3 vols.), was issue in 1864–65. It would be very difficult to give a complete list of all books in the publication of which he had a part, either as author or editor, because it is frequently impossible to determine just how large his share was in either of these capacities, instead of only in that of publisher. However, the following books, to which must be added a number of articles and pamphlets, are, beyond all doubt, results of either his authorship or editorial care: 'The Menageries' (1828); 'The Elephant' (1830); 'The Results of Machinery' (1831); 'Capital and Labour' (1831); 'Trades Unions and Strikes' (1834); 'William Shakespeare' (1843); 'William Caxton' (1844); 'Old England, etc.' (2 vols., 1845); 'Studies of Shakespeare' (1849); 'The Struggles of a Book against Excessive Taxation' (1850); 'The Old Printer and the Modern Press' (1854); 'Once Upon a Time' (1854); 'Knowledge is Power' (1855); 'Begged at Court' (1866); 'Shadows of the Old Booksellers' (1867). Consult Clowes, A. A., 'Knight, a Sketch' (London 1892).

KNIGHT, Daniel Ridgeway, American painter: b. Philadelphia, Pa., 1850. He has been a pupil of Gleyre and a student at the École des Beaux Arts at Paris (1872), and four years later was in the studio of Meissonier, from whom he learned many of the secrets of brilliant technique. He has received honors from Paris, Munich and Antwerp for his exhibited works, and has also been awarded medals at Chicago 1893 and at Philadelphia Academy of Fine Arts 1893. He is a painter, rather French than American, and he has idealized the French peasantry in more than one of his refined and delicately designed pictures, among which we may mention as especially characteristic of his charming qualities 'The Veteran' (1870); 'The Old Beau' (1873); 'Washerwoman' (1875); 'Harvest Scene' (1877); 'Sans Dot' (1883); 'Chatterboxes'; 'L'Appel au passeur'; 'Hailing the Ferry' (Pennsylvania Academy); 'The Shepherdess' (Brooklyn Institute Museum). Knight was made an officer of the Legion of Honor in 1909 and has received also the Cross of Saint Michael of Bavaria.

KNIGHT, Edward Frederick, English journalist and author: b. 23 April 1852. He was graduated at Cambridge and in 1891 became a member of the staff of the London *Times* as a correspondent, being with the armies in the Sudan campaign of 1896, and in Greece in 1897, and in the Cuban and South African wars. He is an expert yachtsman, and has made voyages on small sailing yachts to South America, the West Indies and the Baltic. He has written 'Albania and Montenegro'; 'The Cruise of the Falcon'; 'The Threatening Eye';

'Sailing'; 'The Falcon on the Baltic'; 'The Cruise of the Alerte'; 'Save Me from My Friends'; 'Where Three Empires Meet'; 'Madagascar in War Time'; 'Rhodesia of To-day'; 'With the Royal Tour'; 'The Awakening of Turkey,' etc.

KNIGHT, Edward Henry, American mechanical expert: b. London, England, 1 June 1824; d. Bellefontaine, Ohio, 22 Jan. 1883. After studying both surgery and steel engraving he came to this country in 1845 and settling in Cincinnati was a patent attorney for several years. In 1863 he entered the civil service in Washington, D. C., where he prepared the annual reports of the Patent Office and established and edited the *Official Gazette of the United States Patent Office* in 1871. He served on the international juries of world's fairs at Philadelphia (1876), Paris (1878), Atlanta (1881), and was made a chevalier of the Legion of Honor in 1878. He published 'The American Mechanical Dictionary' (1872–76); 'The New Mechanical Dictionary' (1876–80); 'A Study of the Savage Weapons at the Centennial Exhibition' (in *Smithsonian Institution, Annual Reports,* 1879, p. 213, Washington 1880).

KNIGHT, Ellis Cornelia, English authoress: b. 1757; d. Paris, 17 Dec. 1837. She went to Italy with her mother on the death of her father, Rear-Admiral Sir Joseph Knight (1775). She lived under the protection of Lady Hamilton and Admiral Nelson after her mother's death (1799) and returned with them to England. She was appointed companion to Queen Charlotte (1805) and to a similar position, later, in the household of Charlotte Augusta, Princess of Wales (1813). Her autobiography is a most valuable source of information for the court history of those days. The most important statements in the work were edited and published (1861) after her death. She wrote also 'Dinarbas' (1790); 'Flaminnis,' a romance of old Roman life (1792); 'Sir Guy de Lusignan' (1833), another romance. Her principal work was 'A Description of Latium, or La Campagna di Roma' (1805), with etchings by the author. She translated a number of German hymns and prayers which were printed privately (1822) and published in 1832.

KNIGHT, John James, Australian journalist and historian: b. Hanley, England, 7 June 1863. He has worked as a journalist in Australia and England. He arrived in Australia at the age of 11, and in 1884 he joined the staff of the Brisbane *Courier.* Five years later he went over to the *Observer* as sub-editor and was made editor the following year. In 1906 he became editor-in-chief of the *Courier.* Knight is one of the best writers on Australian history, and especially on that of Queensland. Among his published works are 'Brisbane, Past and Present'; 'Australian Pioneers,' and 'The Story of South Africa' (collaboration).

KNIGHT, Richard Payne, English numismatist and archæologist: b. Wormsley Grange, near Ludlow, Herefordshire, 1750; d. London, 23 April 1824. Having been bequeathed a fortune, he traveled extensively, and wherever he went, especially in Italy, where he was in 1767, 1777 and 1785, he made a specialty of collecting ancient coins, bronzes, gems, drawings and other antiques. From 1780 to 1806 he was a member of Parliament, and for 10 years, 1814–24, served as one of the trustees of the British Museum, to which, upon his death, he left his magnificent archæological collection, especially rich in bronzes and Greek coins. The trustees in 1830 published his manuscript catalogue of his coin collection. His works, which were numerous, included 'An Account of the Remains of the Worship of Priapus lately existing at Isernia in the Kingdom of Naples' (1786); 'Analytical Essay on the Greek Alphabet' (1791); 'An Inquiry into the Symbolic Language of Ancient Art and Mythology' (London 1818); 'Analytical Inquiry into the Principles of Taste' (1805), etc. He also published several volumes of poems and an edition of Homer (1808). Consult Edwards, E., 'Lives of the Founders of the British Museum, etc.' (Vol. I, London 1870).

KNIGHT, Sarah Kemble, American author: b. Boston, 19 April 1666; d. near New London, Conn., 25 Sept. 1727. In 1706–13 she conducted at Boston a school in which Samuel Mather and Benjamin Franklin were at one time pupils. By New England custom she was styled «Madam» Knight as a token of respect. Her 'Journal Kept on a Journey from Boston to New York in the Year 1704' (New York 1825) is a diary record evidently compiled from daily notes made on the way. It is valuable for its account of customs and manners and its descriptions of the settlements, being at the same time interesting for its original orthography and interspersed rhymes. A reprint with additional notes was published by F. H. Little (Albany 1865). Consult Caulkins, F. M., 'History of New London, 1612–1860' (New London 1895); id., 'History of Norwich, Conn.' (Hartford 1866); Deane, W. R., 'Journal of Madam Knight' (in *Living Age,* Vol. LVII, Boston 1858); Tyler, M. C., 'History of American Literature' (Vol. II, New York 1879).

KNIGHT, Thomas Andrew, English horticulturist: b. Wormsley Grange, near Ludlow, Herefordshire, 10 Oct. 1758; d. London, 11 May 1838. He was a younger brother of Richard Payne Knight (q.v.). After graduating from Baliol College, Oxford, he took up the study of horticulture. He first brought himself before the public in 1795 by the publication of the results of his researches into the propagation of fruit-trees and the diseases prevalent among them. He raised new varieties of many fruits and vegetables, many of which bear his name. He was one of the original members of the Horticultural Society, founded in 1804, and from 1811 until his death its president. He was also a fellow of the Royal Society (1805), recipient of its Copley medal (1806), and a fellow of the Linnæan Society (1807). Beside the papers, 46 in number, which he contributed to the 'Transactions' of the Royal Society, and the papers, more than 100 in number, which he contributed to the 'Transactions' of the Horticultural Society, he wrote 'A treatise on the Culture of the Apple and Pear, and on the Manufacture of Cider and Perry' (1797); 'Pomona Herefordiensis, or Natural History of the Old Cider and Perry Fruits of the County of Hereford' (1811). 'A Selection from the Physiological and Horticultural

Papers' of the late T. A. Knight was published in 1841 (G. Bentham and J. Lindley, editors), together with a biographical sketch of his life. Consult Royal Society of London, Proceedings, Vol. IV, p. 92, London 1838.

KNIGHT, William Angus, Scottish philosopher and author: b. Mordington, Scotland, 22 Feb. 1836; d. 4 March 1916. He was educated at the University of Edinburgh, and from 1876–1902 was professor of moral philosophy at the University of Saint Andrews. He was widely known as a student of Wordsworth, whose works he edited in 12 volumes (1896–97). Among his own writings may be cited 'Studies in Philosophy and Literature' (1879); 'Essays in Philosophy, Old and New' (1890); 'The English Lake District as Interpreted in the Poems of Wordsworth' (1878–91); 'Through the Wordsworth Country' (1892); 'Memorials of Thomas Davidson' (1907); 'The Glamour of Oxford' (1911); 'Pro Patria et Rege' (war poems, 1915).

KNIGHT. The word is said to be derived from the Anglo-Saxon Cniht, a servant, one who serves. Hence in feudal times it was used for certain persons doing service to a superior lord or the king, the same as *duke* expressed leadership. As to our knowledge of the origin of the knightly status we must go back as far as the foundation of Rome. Among the early Romans the mounted warriors (*equites*) held a certain special position socially. Its origin has been placed with Romulus who is said (about 750 B.C.) to have made of the three patrician tribes — Ramnes (Latins), Taties (Sabines) and Luceres (Etruscans) — three centurion (300) of riders in war service. Under the kings this number was raised to six, later, by additions of plebeians raising the rank to 18 and forming the basis of a special order (*ordo equester*) adapted for cavalry. As the service entailed no extra expense the standing of this body of armed riders was raised above that of citizenship. By law of Roscius (267 B.C.) the condition was imposed of owning a fortune 4,000,000 sesterces. The external badge on the campaign uniform of this body of cavalry was a narrow stripe on the tunic, also the distinction of wearing a gold ring and having special seats in the theatre and circus, besides other political and social features. Under the Cæsars this order of riders (*equester*) was drawn on for imperial officials, to carry on the financial rule of the provinces, etc.

During the Saxon heptarchy, in England, the order of knighthood was conferred by a priest at the altar, Athelstan (900 A.D.) being the first king to create a knight. The receiving of arms at the arrival of the age of manhood was from the days of the Germanic hordes accompanied by a solemn ceremonial, and the candidate to wear arms had to prove fitness in capacity. By the 11th century the ceremony of the investiture of arms had become general. Under the feudal laws some tenants and the owners of lands free from rent or service (*allodial*) had to be ready on call to serve their lord or king *on horseback* and wearing a coat of mail. (See CHAIN ARMOR). They were called Caballarii, from whence the French term *chevalier* is derived. And we now read of a "knight's fee" in England, or the *feudum loricæ, fief de haubert* (coat of mail) being "a certain value of land"; these vassals, we are told, were "serving as knights, mounted and equipped."

The origin of the knight of chivalry is one involved in the history of morals of the European nations — the institution of chivalry. The knighthood of chivalry is an independent and voluntary service. The obligation of the landowner to service of knight in arms did not extend to the rest of the family except the heir. The younger sons ambitious of gaining glory and dignity as knights had to submit their military service to some wealthy lord in the hope of gaining an income by their prowess as well as that social distinction which was theirs by birth, and from this field of achieved personal ambition arose a social advance in which the voluntary seeker of fame in arms raised himself a step higher in the social scale than the knight by legal right regardless of merit or valor in the field. These were the first knights of chivalry. The Crusades increased the number and ranks of these hired knights and at the same time altered and advanced the status of chivalry itself. While the ritual of investing the hired officer with knighthood included such mandates as oaths of fidelity and honor, as well as gallantry and protection to women over and beyond the former claim to discipline demanded of the common soldier (*militēs*), this act of crusading for the capture of Jerusalem and the Holy Land introduced a religious feature that did not before enter into the realm of knighthood's services. And we read of the applicant for knighthood first confessing his sins before the priest, spending nights in prayer and passing through pious rites before receiving his titular rank. And the order was conferred on him by a *priest* instead of being "dubbed" by a knight. Chivalry had become a religious institution and the crusading knight of the 12th century was the militant bearer of the Cross and protector of his Church. Gallantry and protection of the fair sex became a living force among the knights and at tournaments the ladies took a prominent and distinguished part. And we now arrive at the time when the following were the qualifications of a deserving knight: Great respect for the female and three other virtues were enjoined on knighthood, namely, loyalty, courtesy and munificence.

The first of these three virtues included, as paramount, fidelity to engagements, and these engagements were the feudal obligation to superiors and keeping of every promise, besides fidelity to one's lady love. Any breach of engagement was looked upon and condemned with such epithets as: "False, perjured, disloyal, recreant." It forbade the savage instinct to treachery. The knight who perpetrated an offense against this virtue was considered unfit to bear the title of knight. The virtue of courtesy was the display of "modesty, self-denial and respect for others," and included chivalric treatment of prisioners. Under the term munificence was intended the behest of liberality and hospitality to the visitor, freedom in the use of coin to recompense the traveling minstrel, *largesse* to the poor, and financial aid to relatives in need. Besides the qualification of valor in the knight a fixed purpose of enforcing justice and redress of wrongs was

strongly inculcated. In return for his vows of renunciation of vices the knight received numerous privileges. These were the right to wear distinctive and resplendent armor-crested helm, heavy armor displaying his heraldic bearings, spurs of gold, etc. His horse was gay in its bards (see BARDS) and gaudy "housings." In his castle or palace he was permitted the dignity of wearing scarlet robes. Certain civil offices were filled by members of the order. He had the power (to be used not lightly) of conferring knighthood on others (if *gentlemen*). There were class distinctions of knighthood such as knights bannerets and bachelors. The former belonged to those having large estates and able to summon a certain number of lances for battle. A squire carried his master's sign of distinction in the form of a *banner* on the end of a lance. The knight bachelor was permitted only a pointed pennant.

But the above high moral plane of action in the knight's life code, though acting as an incentive to good work and restraint from evil, did not *prevent* abuse of power from entering the valorous rank. The very elevation of rank entailed a sense of degradation of those beneath. It was but human that this breach extended and cases increased in which the populace received disdainful treatment while some members became more and more haughty. Such irregularities or abuses tended to bring the Orders into disfavor. The rapacity of the Knights Templars impaired the fair name of chivalry and brought with it retribution. But the cause of the decline and fall of the institution of chivalry's knighthood is placed by some authorities as brought about by the French kings Charles VI and Charles VII bestowing the order of knighthood profusely, and the act of Francis I conferring knighthood on lawyers and other classes of civilians. The efficiency of gunpowder in rendering armor useless, however, is generally accepted as the chief cause of the extinction of the order of knighthood. (See CHIVALRY). And the 16th and 17th centuries saw the displacement of knights by gentlemen and cavaliers. By the 16th century we find the honor of knighthood conferred by the sovereign as a civil more than military honor, as reward for services to state or ruler. And with more peaceful times have arisen numerous orders or fraternities in the social and commercial world utilizing the title, such as the Knights of Columbus, Knights of Labor, etc.

The term knight is applied to a certain piece in the game of chess which is identified by a horse's head; the term has been vulgarly applied in commerce to the traveling salesman as "knight of the grip."

Bibliography.— Gautier, Léon Émile Théodore, 'La Chevalerie' (Paris 1890); Hallam, Henry, 'View of the State of Europe during the Middle Ages' (London 1901); James, George Payne Rainsford, 'The History of Chivalry' (New York 1835); Weber, Karl Julius, 'Das Ritterwesen und die Templer, Johanniter und Marianer' (Stuttgart 1835).

CLEMENT W. COUMBE.

KNIGHTS OF COLUMBUS. The Knights of Columbus is a fraternal beneficiary society organized under a special charter granted by the State of Connecticut, 29 March 1882. It is open only to male Catholics, whose pastors testify that they practice their religion, and receives insurance members from age 18 to 50; associate or non-insured members are received from age 21 and upward. Its system of insurance is based upon the Fraternal-American Table of Mortality and was prepared by David Parks Fackler, ex-president and one of the founders of the Actuarial Society of America.

The insurance is based on a combination step rate — level rate plan, with very moderate advances every five years from entry to age 55, thereafter on a 15-year level rate with fully paid-up at age 70, with optional selection from age 55 of either Level Whole Life Plan with full insurance in force, or Economic Plan with reducing insurance after age 60; with paid-up and extended insurance and credits allowable toward payment of assessments after payment for specified time on level rates, all based on competent actuarial computation of the highest order. The Order has in force 1 April 1918 insurance certificates of $132,344,151.33. Its reserve fund amounts to $8,532,967.89. Ratio of assets to liabilities (calculation made as of 31 Dec. 1917) 132.35 per cent. Mortality rate for the year 1917, 7.7 members per thousand. Insurance certificates issued for one, two and three thousand dollars. The order has now been established in every State and territory of Continental United States, every province of the Dominion of Canada, in Newfoundland, Alaska, the Philippines, Cuba, Porto Rico, Mexico, the Canal Zone and Panama.

In addition to the insurance features it is devoted to the promotion and protection of Catholic interests and the interest of Catholic men and women. Has the commendation of the entire Catholic Hierarchy, and special commendation from several popes. Endowed at $50,000 a chair of American History at the Catholic University of America. Later endowed at $500,000 fifty perpetual free scholarships at same institution. Aims to propagate Catholic doctrine from platform and by literature; publishes monthly a 24-page magazine known as *The Columbiad*; has issued special editions of 'The Popes and Science' and 'The Thirteenth, Greatest of Centuries' by Dr. James J. Walsh; has published a special edition of 'The Catholic Encyclopedia'; took large part in relief work in San Francisco earthquake, Kansas flood, Chelsea fire, Ohio flood and Halifax disaster, and also rendered large and efficient service in the Great World War both in America and abroad.

Has no oath, only obligation of secrecy. Four degrees of ceremonial teaching charity, unity, fraternity and patriotism. Has conducted propaganda by lecturers throughout the United States and Canada against Socialism for three years. Organized a Commission on Religious Prejudices to combat the spirit of bigotry through platform and publications, by setting forth, in answer, the Catholic position and endeavoring to promote a spirit of fraternity among citizens of all races and creeds. Subordinate body known as council; governing body, supreme council. Chief officers known as supreme. Representative form of government. Laws forbid activity in politics and excludes from membership those in liquor business. No affiliation with any other society.

KNIGHTS OF THE CROSS, The. The title of one of the novels of Henryk Sienkiewicz. It covers the period of the struggle of Poland with the German military Order of the Teutonic Knights, culminating in the great victory over the Knights at Tanneberg. Some of the atrocities described are re-echoed in like cruelties of the Great European War. The hero of the story is a young giant Polish country lad, who became a great soldier. The story of his father-in-law Yurand is pathetic and strongly appeals to the emotions. The battle of Tanneberg is wonderfully depicted. The novel was translated by the late Jeremiah Curtin (2 vols., 1900).

KNIGHTS OF THE GOLDEN CIRCLE, a secret organization in the United States, established a few years before the Civil War, and formed with the object of destroying the republic and setting up a great Southern empire with negro slavery as its cornerstone, and also with the purpose of controlling the great commercial interests of cotton, sugar and tobacco. With its centre at Havana, Cuba, the "Golden Circle" intended to embrace in the territory of the new government a radius of 1,200 miles, and to include parts of Central America. The organization was never fully consummated, although thousands of persons joined in the movement and many lodges or councils were instituted. The society was strongest in Ohio, Indiana and Illinois. In 1863 the order was disbanded and was succeeded by the order of American Knights, which in turn was replaced by the Sons of Liberty. Its most ambitious project was one for an uprising in Ohio, Indiana, Illinois and Missouri, which should free all Confederate prisoners in those States and set up a Northwestern Confederacy. Three of the leaders were condemned to death by a military commission but were released after 18 months' imprisonment, the Supreme Court holding that the commission had no jurisdiction. Consult 'An Authentic Exposition of the Knights of the Golden Circle' (Indianapolis 1861); Holt, "Report on Secret Orders" (in McPherson's 'History of the Rebellion,' Washington 1876); Rhodes, J. F., 'History of the United States' (New York 1904); and Foulke, 'Life of Oliver P. Morton' (2 vols., ib. 1898).

KNIGHTS OF THE GOLDEN EAGLE. Founded in the city of Baltimore, Md., 6 Feb. 1873. Is now located in 22 States. Has a supreme or governing body, 14 Grand or State bodies and more than one thousand subordinate bodies, called castles, with a membership of more than 60,000. A female branch, composed of ladies, relatives of members, with six grand temples and several hundred subordinate bodies with more than 20,000 members. Its motto is "Fidelity, Valor and Honor for Males, and Faith, Hope and Charity for Females." It has paid sick benefits amounting to more than $7,000,000. Its objects are to promote the principles of benevolence by associating its members in different locations for purposes of mutual relief against the trials and vicissitudes attending sickness, distress and death, by sympathy and pecuniary assistance. To assist in business, elevate its membership and aid in advance to higher life. A person qualified to be a beneficial member must be white, of the age of 18 years, of sound body and good moral character, a believer in the Supreme Being and of the Christian Faith, and competent to pursue some useful and lawful occupation, and not engaged directly or indirectly in the manufacture or sale of spirituous or malt liquors. It has a feature paying $250 at the death of a member; pays weekly sick benefits and a benfit for a deceased wife. Has a military branch composed of members formed into commanderies, with neat and attractive uniform. Is semi-military in its ritualistic work. Its teachings are founded upon the history of the Crusades. Members are known as Sir Knights. Ladies are called Companions. It has a Home and Orphanage, where aged couples are not separated. It maintains a periodical published monthly and seeks to ennoble and refine. The American flag is used in its meetings.

KNIGHTS OF HONOR, a fraternal benevolent society founded in the United States in 1873. The social, moral and intellectual advancement of its members are among the society's principal objects, as also the payment of death benefits to the widows and orphans of deceased members. The headquarters of the society are at Saint Louis, Mo. Its membership is estimated at about 20,000; benefits disbursed since organization, $100,000,000. It has a supreme dictator, over 30 grand lodges and about 1,150 subordinate lodges.

KNIGHTS HOSPITALLERS. See ORDERS, RELIGIOUS.

KNIGHTS OF LABOR, an American labor organization which originated among the garment-cutters of Philadelphia in 1869. It was founded by 10 members of the trade under the leadership of Uriah Stevens, as a secret society, with a rather elaborate ritual. It grew slowly at first; though workingmen of all trades were admitted, it was not until 1872 that the second local assembly was formed, but in that year 27 locals were organized, all in Philadelphia; the first local organized outside that city was that of the gold-beaters of New York. In its first organization politicians, physicians, lawyers and liquor-dealers were excluded from membership; the two latter classes are still excluded. The first general assembly was held at Reading, Pa., in 1878, where seven States were represented. At this meeting a declaration of principles was adopted which remains substantially the same; the purpose was declared to be the "organizing, educating, and directing of the power of the industrial masses," in order to "make industrial and moral worth, and not wealth, the true standard of national and individual greatness," and to "secure to the workers the full enjoyment of the wealth they create." To secure these aims, the organization demanded certain legislative remedies, including the referendum, the establishment of a bureau of labor staitstics, abrogation of class laws, prohibition of the employment of children under the age of 15, abolition of the contract system on public works, and of the convict-labor system, and reforms in the financial and land laws; and in the industrial field it proposed to "establish co-operative institutions which will tend to supersede the wage-system," to secure both sexes equal rights, and gradually to reduce the hours of labor to eight per day.

In 1881 all secrecy was abolished, and in 1882 a revised constitution adopted, in accordance with which the organization consists of local assemblies, of not less than 10 members, of whom three-fourths must be wage-earners or farmers; district assemblies, formed by not less than five locals,' and' the general assembly, which meets annually for the election of officers and the transaction of business. The executive officers are a general master workman, general worthy foreman, general secretary-treasurer, and general executive board. The constitution provides also for the support of strikes approved by the executive board after all attempts at conciliation have failed. The organization grew rapidly after this time, till in 1886 delegates at the general assembly represented over 300,000; at that time, however, dissensions began which resulted in a split and the formation of the American Federation of Labor (q.v.). Though the organization remained powerful for several years, its numbers began to decrease, and at present it has less than 100,000 members, and its influence has gradually declined. In 1890 *The Journal of United Labor* was established; later the name was changed to *Journal of the Knights of Labor*, and it is the official journal of the organization.

The Knights differ radically from the trades unions in the basis of their organization; their ideal is to organize labor without distinction of trade, and to harmonize individual and trade interests with the interest of the whole; though locals may be organized on trade lines, no autonomy of trades is allowed. This and the fact that the general executive board tried to exercise a too centralized authority were among the chief causes of dissatisfaction. Strikes were at one time condemned by the general assembly (1880), but later the organization took part in a number of strikes and also made use of the boycott; violence has been at all times condemned. (See AMERICAN FEDERATION OF LABOR; LABOR ORGANIZATIONS). Consult McNeill, 'The Labor Movement; the Problem of To-day'; Powderly, 'Thirty Years of Labor'; Wright, 'Historical Sketch of the Knights of Labor' (in *Quarterly Journal of Economics*, Vol. I, p. 137, Boston 1887); Ely, R. T., 'Labor Movement in America' (New York 1886); Kirk, William, 'Knights of Labor and the American Federation of Labor' (ib. 1906).

KNIGHTS AND LADIES OF HONOR, a fraternal beneficiary society founded in the United States in 1877. It was merged and consolidated with the North American Union of Chicago 24 Aug. 1916. Men and women were admitted on equal terms. The central authority was the supreme lodge, and the chief officer was styled the supreme protector. It reported a membership of about 70,000; benefits disbursed since organization, $34,470,000.

KNIGHTS OF THE MACCABEES OF THE WORLD. See MACCABEES, THE.

KNIGHTS OF MALTA, Ancient and Illustrious Order of. See JOHN, SAINT, ORDER OF.

KNIGHTS OF THE MODERN MACCABEES. See MACCABEES, THE.

KNIGHTS OF PYTHIAS, a brotherhood organized to disseminate the principles of friendship, charity and benevolence. The order was founded at Washington, D. C., 19 Feb. 1864, by Justus Henry Rathbone and four associates. An official declaration affirms that "toleration in religion, obedience to law, and loyalty to government" are its three cardinal tenets. The theme upon which the entire fabric of the society rests is the story of Damon and Pythias, —friendship even unto death being a paramount doctrine. The order at present is confined, in its jurisdiction, to the continent of North America; efforts earlier in its history to include the world as its field of action having proved futile. The name chosen, Knights of Pythias, rather than the more historically accurate designation of "Knights of Damon," was probably due to dramatic license, the reasons for which, like that of poetry, are obscure.

On 15 Feb. 1864, in Washington, D. C., five clerks of the government met to organize the new order. "Washington Lodge, No. 1, was organized in Temperance Hall, 19 Feb. 1864," so run the minutes. The number of members is not stated; but, at the close of the year, these had increased to 52. The "founder" was elected worthy chancellor, with associate officers: Vice chancellor, venerable patriarch, worthy scribe, assistant scribe, banker, assistant banker, worthy guide, inside steward, and four choral knights. Evidently the resolution, adopted on the 15th, had not yet gone into effect. The grand lodge of the District of Columbia was formed 8 April 1864, with J. T. K. Plant as grand chancellor. The other grand officers followed the titles adopted by the subordinate lodge. Franklin Lodge No. 2 was organized at Washington Navy Yard 12 April 1864, and others followed in rapid succession. Then the order waned, until, 1 Aug. 1865, Franklin No. 2 was the only lodge in existence; and it was an acting grand, as well as a subordinate lodge. When the year 1865 closed, the membership in No. 2 was nearly 60, there was a treasury of $200, and the "sole survivor" was in a prosperous condition, notwithstanding a loss of $255.55 through its "banker." On 1 May 1866 the grand lodge was reorganized, and the order spread to other jurisdictions. When the supreme lodge was constituted, 15 May 1868, the grand lodges of the District of Columbia, Pennsylvania, New Jersey, Maryland and Delaware were represented. Through many trials, beset at times with disloyalty within and litigation without, from this beginning sprang the great order of the Knights of Pythias.

Government.— This is representative, and threefold, like the society's tenets. It is divided into three departments, namely: Legislative, executive and judicial. These are regulated by statutes based upon constitutional provisions. In these particulars, and, in its methods of administration, the order has differentiated itself from others of its class. The government is vested in a supreme lodge, the source of all authority in the order; in State and provincial grand lodges, possessing subordinate authority over 10 or more lodges; in subordinate lodges, which create the membership by the acceptance of petitioners, and conferring upon them the ranks of "page," "esquire," and "knight." The supreme lodge was incorporated 5 Aug. 1870, under an Act of Congress approved the previous 5th of May, and many of the grand and subordinate lodges are, also, corporations. The order has, in ad-

dition to its three ranks, or degrees, an "endowment" rank, the insurance feature; and a "uniform" rank, the military division,—affiliation with which is voluntary, and predicated on regularity and good standing in the lodge. The titles borne by officers naturally follow the ritualistic structure.

Uniform Rank.—The organization of the display branch dates from 1878. The "rank" sprang at once into popularity, and the notable parade at Cincinnati in 1888 served to induce the supreme body to perfect its rules and regulations. Before that year creditable appearances had been made, but then trained soldiers, properly officered, were in line. Since that time the Pythian army has been a regular feature of all assemblages. The ritual is emphatically patriotic; and the offer made to the United States government by this army of disciplined troops, for service in the Spanish-American War, is worthy of note. The powers of this branch are delegated to a supreme assembly,—with a representation in the aforesaid governing bodies,—and the organization follows the lines of the United States army, the "uniformed knights" using the government tactics.

Documents are dated by the Pythian era, beginning with 1864. To find it, subtract 1863 from the common era. For example: 1917 — 1863 = 54.

Statistics.—The reports for 1917 show 722,075 members, gathered in over 5,000 subordinate lodges, governed by nine grand lodges, and a supreme lodge. The total benefits disbursed since organization are about $50,000,000, and more than 40 periodicals are published in the interest of the order.

Bibliography.—Carnahan, 'Pythian Knighthood, its History and Literature'; Van Valkenburg, 'Jewels of Pythian Knighthood'; 'Constitutions of the Supreme Lodge Knights of Pythias.'

KNIGHTS OF THE ROUND TABLE, the knights of King Arthur, according to some accounts 12 in number, famed for their valor, who sat at a round table in token of their perfect equality. Other versions of the legend give their number as 50 or more. The most famous of them are Lancelot, Tristram, Galahad and Gawayne. See ARTHUR; ARTHURIAN LEGENDS; GRAIL, THE HOLY.

KNIGHTS OF THE ROYAL ARCH, The, is an organization which confines its membership to white, male persons engaged in the retail liquor business. It was founded in California in the year 1901, the first lodge being instituted in the city of Los Angeles. At one period of its existence it had branch lodges in Oregon, Washington, California Arizona and Utah, but owing to the fact that Oregon, Washington and Arizona have gone "dry" and that Utah has become a separate State organization, membership is now confined to California exclusively. The organization consists of a grand lodge, associate membership and 40 subordinate lodges, the latter being located in the larger cities and towns of the State. The grand lodge consists of delegates from each subordinate lodge in proportion to its membership and holds a convention annually. The associate membership consists of wholesale liquor dealers, brewers and all classes of business which sell goods to the retail liquor dealer. Provision is also made for retail liquor dealers, in localities where there are not a sufficient number to form a lodge, to become certificate members upon payment of annual dues. The Knights of the Royal Arch is organized for the purpose of mutual protection of its members and elevation of their business and to combat adverse legislation instituted by those opposed to the liquor industry. It also has a fraternal feature and has expended in that direction since its organization, approximately $300,000. Its annual disbursements in sick and death benefits and charitable work exceeds $30,000. It has a membership of 4,900 and is supported by monthly dues.

KNIGHTS OF SAINT JOHN AND MALTA, a secret society founded 1883. It has a grand encampment, 52 subordinate encampments and 3,147 members. Since organization the society has disbursed $906,275 in benefits; and during 1910, the amount was $31,188.

KNIGHTS TEMPLARS. See MASONIC FRATERNITY, THE.

KNIGHTSTOWN, Ind., town in Henry County, on the Blue River, and on the Cleveland, Cincinnati, Chicago and Saint Louis, and the Pittsburgh, Cincinnati and Saint Louis railroads, 34 miles east of Indianapolis. Near the town are the State Soldiers and Sailors' Orphans' Home. The town has excellent water power, natural gas, flour-mills, torpedo works, saw and planing mills, poultry-packing establishments, cigar factory, automobile works, machine shops, wire-fence factory, ice plant, cement blocks and other industries, and owns the electric light and waterworks plants. There are two national banks, with combined resources totaling $821,092. The value of taxable property is placed at $1,217,470. There are a public school and a high school, and a Carnegie library. The government is vested in a town council. The receipts in 1915 were $51,908 and the expenditures $47,263. Pop. 2,008.

KNILLE, knĭl'lĕ, **Otto,** German historical painter: b. Osnabrück, 10 Sept. 1832; d. Meran, 7 April 1898. He studied at the Düsseldorf Academy till 1856 under Karl Sohn, Th. Hildebrandt and W. von Schadow, then under Couture at Paris. He next spent three years in Munich and another three years in Italy. In 1865 he was commissioned to decorate the Castle of Marienberg with frescoes. At this time he did the oil painting 'Fra Angelico painting in S. Marco Monastery, Florence.' Other noted works were 'Tannhäuser und Venus,' in the Berlin National Gallery' (1873); he finished his four 'Culture Epochs' in 1884, in the Berlin Treppenhaus of the University Library, which contain in their groups portraits of the famous men of these periods. He was elected (1880) member of the Academy of Art, and was leader of a "masters studio" in the academy (1885). Since then he painted little except small genre pictures, landscapes, studies from the Tyrol and Italy. He did considerable illustrating, and wrote 'Grübeleien eines Malers über seine Kunst' (Berlin 1887), and 'Wollen und Hönnen in der Malerei' (ib. 1897).

KNIT GOODS. See HOSIERY AND KNIT GOODS.

KNITTING, an industrial and ornamental art akin to weaving, but of much later origin. It does not appear to be more than three or four centuries old, and seems to have been first used in the manufacture of stockings. It consists in forming a series of loops with a single thread, through which another row of loops is passed, and so on consecutively in spiraled circles, the garment being shaped by variations in the number of loops in a row. In hand-knitting, steel-wires or bone or composition needles are used, termed knitting needles, and on these the loops are formed. For manufacturing purposes hand-knitting has been entirely superseded by machinery (see KNITTING-MACHINE), which is constantly receiving new improvements. Hand-knitting, however, still forms an agreeable domestic occupation and also furnishes many women in some parts of the world with means of subsistenc . Promptly upon America's entrance into the World War, many patriotic societies, and women of the Red Cross in particular, started a work of knitting sweaters for soldiers and sailors. The movement was taken up by thousands of women, who devoted their otherwise idle time to knitting, and it became common to see women everywhere with knitting bags on their arms, that they might work whenever they had spare moments. On the street cars, at social gatherings, in intervals of business, there was industrious knitting, resulting in a great volume of very serviceable sweaters and some other knitted garments being provided for the "boys at the front."

KNITTING-MACHINE. Of the many kinds of knitting-machines in use, one of the best known has a bed-plate with a vertically projecting and grooved needle-guiding cylinder or bed, secured to a table or support. On the bed-plate is a loose ring with a thread-guide for conducting the thread to the needles, and about the needle-cylinder is a revolving cylinder with an annular groove interrupted by a cam-portion. and provided with adjustable cams, which govern the downward motion of the needles, and consequently the length of the loops, and raise the needles; two of these latter cams being needed for reversing the machine for knitting a heel or a flat web. The cam-cylinder is moved by a bevel-gear connected to a driving-crank, and when moved continuously in one direction knits a circular web; and this web may be narrowed as desired, to fashion the leg of a stocking, by removing needles, and placing their loops on adjacent needles. One needle receives the thread within its hook, and is subsequently moved by the cam-cylinder so as to form the thread so taken into a loop. When the heel is to be formed some of the needles are drawn up, their loops thus being retained and the number of needles left in action corresponds with the width of the heel to be formed. The cam-cylinder is now to be reciprocated in opposite directions, and in order to keep the thread-guide in advance of the descending needles sufficiently far, so that the thread will be caught, pins are inserted in the bed-plate to engage the heel of the thread-carrier and stop it just before the cam-cylinder is stopped. See TEXTILE INDUSTRY.

KNOBEL, knō'bĕl, **Karl August,** German Protestant theologian: b. Tzschecheln, near Sorau, Silesia, 7 Aug. 1807; d. Giessen, 25 May 1863. He became private teacher (docent) at Breslau (1831), assistant professor of theology (1835) and professor at Giessen (1838). He wrote 'Der Prophetismus der Hebräer' (Breslau 1837); 'Die Völkertafel der Genesis' (Giessen 1850); 'Kommentare über Koheleth' (Leipzig 1836); 'Jesaias' (ib. 1843); 'Die Genesis' (ib. 1860); 'Exodus und Leviticus' (ib. 1857); 'Numeri, Deuteronomium und Josua' (ib. 1861). These were written for Hirzel's *Kurzgefasstes exegetisches Handbuch zum Alten Testament.*

KNOBELSDORFF - BRENKENHOFF, knō'bĕls-dôrf-brĕnk'ĕn-hōf, **Nataly von,** German novelist: b. Hofgeismar, 17 May 1860. She wrote under her maiden name, Nataly von Eschstruth. She was daughter of a Hessian officer and was educated in Berlin; married Capt. Franz Knobelsdorff-Brenkenhoff (1880), and after her travels lived at Schwerin. She started early writing short stories and plays; of the latter 'Karl Augusts Brautfahrt,' 'Die Sturmnixe,' were placed on the stage. Her rapidly sketched novels and stories soon gained popularity and some reached several editions. She wrote 'Wolfsburg' (Jena 1884); 'Gänsebiesel' (Berlin 1886); 'Katz und Maus' (ib. 1886); 'Potpourri' (1886); 'Humoresken' (1887); 'Palnisch Blut' (1887, 2 vols.); 'Die Erlkönigin' (1887); 'Hazard' (1888, 2 vols.); 'Hoflust' (1889; 9th ed., 1899); 'Sternschuppen' (1890); 'Im Schellenhemd' (1894, 2 vols.). Other two-volume works were 'Von Gottes Gnaden' (1894); 'Der Stern des Glucks' (1897); 'Der Majoratskerr' (1898); 'Der verlorene Sohn' (1902); 'Die Bären von Hohen-Esp' (1902; 8th ed., 1904). She brought out a volume of her poems under the title 'Wegekraut' (Dresden 1887), and a collection of her works has been published serially since 1899 in Leipzig.

KNOBKERRIE, nŏb'kĕr'ĭ. A South African weapon used, either as a missile or as a club at close quarters, by the natives. The word is derived from the local Dutch term *knop-kirie,* composed of the words *knop,* a knob, and *kerrie,* the Hottentot word for stick. It consists of a stick long enough to be used as a walking stick, but is thrown, as a weapon, with unerring accuracy, for quite a distance. Similar native weapons are found in Australasia.

KNOBLAUCH, knōp'louk, **Hermann,** German physicist: b. Berlin, 11 April 1820; d. Baden-Baden, 1 July 1895. He became private teacher (docent) in Berlin (1848) and Bonn (1849). In the latter year he was appointed assistant professor at Berlin and professor of physics at Halle (1854). From 1878 he was president of the Imperial Leopoldinisch-Karolinischen Academy of German Natural-History Research. His work consisted largely of examining the phenomenon of heat rays, and, through his and Melloni's researches it was proved that light rays and heat rays do not differ.

KNOCHE, knō'kĕ, **Walter Alfred,** German meteorologist: b. Berlin, 7 March 1881. He studied at the Berlin Oberrealschule and the universities of Geneva and Berlin. He was appointed assistant professor at the Royal

Prussian Meteorological Institute (1906) and to the Public Weather Bureau (1907). In 1908 he accompanied the scientific expedition to the Bolivian plateaus, and entered (1910) the service of the Chilean government's meteorological department. He wrote three publications of the Central Meteorological Institute of Chile, also 'Observaciones en la mina Aguila, 5,200'; 'Observaciones de provincias' (1910). He edited the periodical *Anuario Meteorological de Chile* (1911), and contributed many important essays to the contemporary journals on meteorology, ethnology and ethnography.

KNOCKE, knŏk'ĕ, or **KNOKKE**, Belgium, a seaside resort on the North Sea coast near Bruges, destroyed by bombardment of the British fleet when used by the Central Powers, in the World War, as an offensive base.

KNOLLES, nōlz, or **KNOWLLES, Richard**, English historian: b. probably Cold Ashby, Northamptonshire, about 1550; d. Sandwich, Kent, 1610. He was graduated from Lincoln College, Oxford, in 1565, and became first a Fellow of his college and about 1571 master of the grammar school of Sandwich. He wrote a 'Generall Historie of the Turkes' (London 1603), the style of which is highly commended by Johnson, Hallam and other critics. A number of later editions were brought out, most of which had been brought up to the date of publication; the last of these with continuations, by Sir Paul Rycaut, was published (London 1687–1700). An abridged edition was published by John Savage (2 vols., London 1701). Knolles also published a translation from the French and Latin of J. Bodin's 'The Six Bookes of a Common Weale' (London 1606). A 'Grammatica Latina, Graeca et Hebraica,' frequently attributed to him, was the work of the Rev. Hanserd Knollys.

KNOLLYS, Sir Francis, English statesman: b. about 1514; d. 1596. He was favored by Henry VIII who secured to him the estate of Rotherfield Greys (1538) and made him a gentleman-pensioner at court. He entered the House of Commons (1542) as member for Horsham. As a staunch Protestant he threw in his allegiance with Edward VI and accompanied his army to Scotland. He was knighted (1547) and received the grant of the manors of Caversham (about 1551). With Mary's accession his religious opinions necessitated his exile to Germany but he returned before the queen's death. He was appointed a member of Elizabeth's privy council (1558) and was made vice-chamberlain of the household and captain of the halberdiers. He was elected (1559) member of Parliament for Arundee and (1562) for Oxford. He was made governor of Portsmouth (1563), went to Ireland (1566) on a diplomatic mission and was appointed treasurer of the Queen's Chamber in the same year. When Mary, Queen of Scots fled (1568) to England he and Baron Henry Scrope were jointly entrusted with taking charge of the fugitive, first at Carlisle Castle, then at Bolton Castle. He strived to convert his prisoner to the Protestant faith. He plainly told Elizabeth to bring charges against the prisoner or acquit her, but in 1587 urged her execution. He headed the land forces (1588–89) of Hertfordshire and Cambridgeshire led to resist the Spanish Armada. He was created K. G. (1593). Many of his letters are printed in Wright's 'Queen Elizabeth' in the Calendars of the Hatfield MSS., and in Haynes' 'State Papers.'

KNOLLYS, Hanserd, English Baptist clergyman: b. Cawkwell, Lincolnshire, about 1599; d. London, 1691. He was graduated at Cambridge and ordained there. He became Separatist (1636), renounced his orders and removed to London, then fled to New England to escape imprisonment for his expressed heterodox opinions concerning ritual and admission to the communion. The English High Commission court warrant reached him at Boston and he suffered a short imprisonment but was soon preaching at Dover, N. H., when Cotton Mather enumerated him among "godly Anabaptists." He returned (1641) to England, taught in London, then became army chaplain. By 1644 he was preaching his own peculiar doctrines; his popularity leading "to riots and tumults," he was brought twice before a committee of Parliament. From 1645 to the Restoration he was not interfered with, but escaped (1661) prosecution by exile to Holland and Germany for several years. Returning to London he continued his pastorate and was arrested (1670) and imprisoned, but soon freed. He wrote several grammars on Hebrew, Latin, Greek, etc. The Hanserd Knollys Society published a number of his works. Consult also Crosby's 'History of English Baptists' (1738); 'Confessions of Faith' (1854), and 'Records of the Churches at Fenstanton, etc.' (1854), both the latter by Hanserd Knollys Society.

KNOLLYS, or KNOLLES, Sir Robert, English military commander: a native of Cheshire, birth date unknown; d. 1407. His first military service was in Brittany under Sir Thomas Dagworth (1346) at the siege of La Roche d'Orient. He was a knight when he took part in the "Combat of the Thirty" and was one of the survivors made prisoner (1351). On his release he remained in Brittany and acquired renown on the field. He aided Henry of Lancaster on his raid into Normandy in support of Philip of Navarre and Godfrey de Harcourt (1356), and was head of the plunderers known as the "Great Company" (1358), his share in the loot being 100,000 crowns. In the Loire Valley he captured 40 castles and ravaged the country from Tonnerre to Vezelay and Nevers to Orleans, sacking and burning the suburbs of the latter city. He declared this warfare was neither for the English king or for Charles of Navarre, but for himself alone. He sacked Auxerre and enforced a great ransom, captured Châtillon-sur-Loing (1359), then raided through Berri into Auvergne. He aided Simon de Montfort against Charles de Blois at the siege of Auray and defeated de Blois, then joined the Black Prince (1367) in his Spanish expedition. He aided in the capture of Navarrete, and was present at the battle of Najara. Soon he returned to Brittany, but was given command of an expedition in Aquitaine (1369). France having prepared a military expedition against Wales (1370), he was given command of a force to land at Calais. Thence he continued and sacked the suburbs of Arras and went

through Artois into Picardy and Varmandois, plundering till he reached Rheims, and thence to Villejuif, near Paris. This raiding counter attack averted the planned French onslaught on Wales which did not take place. He was residing in London in 1381 when the Wat Tyler rebellion broke out, and the city gave him the leadership. He quickly suppressed the rising. Having acquired immense wealth in his campaigns, he used some in frequent loans to the king and much was spent in building English churches, a hospital at Rome, the house of the Carmelites in London; at Pontefract he founded a college and hospital and endowed them. Consult Froissart's 'Chroniques' (Vols. IV–VIII); Fuller's 'Worthies' (1811); Lobineau's 'Histoire de Bretagne,' etc.

KNOOP, knōp, **Gerhard Julius Ouckama,** German novelist: b. Bremen, 9 June 1861; d. Innsbruck, 6 Sept. 1913. His health in early youth was poor, with the result that in his enforced summer vacations in the country, as well as in his winter quarters in the city, he was cut off from association with boys of his own age, and thus became somewhat singular and exclusive in manner. In 1878, a year after the death of his father, he was graduated from the Bremen Realschule, and an uncle, Baron L. Knoop, undertook to pay for his further education, sending him to the Polytechnic Institute at Hanover, to qualify as an industrial chemist. In 1881 he changed for the corresponding institution at München, and in 1883 he went to Mülhausen in Alsace, first attending the school of chemistry, and then entering a factory for further study. In 1885 he took an important position in the calico-printing works at Moscow, which he retained until 1911, when he settled in München. His literary work, which he regarded almost entirely as a pastime, was chiefly in the field of narrative satire. Particularly interesting for Americans are the two novels of which Sebald Soeker is the hero; they describe the adventures in Germany of a young German-American who for many years regarded Germany as the land of his ideal, but who finds, on acquaintance with actual conditions there, that the Fatherland contains much that is vulgar, meretricious and base. His novels are 'Das Element' (1901); 'Hermann Osleb' (Berlin 1904); 'Sebald Soekers Pilgerfahrt' (1903); 'Sebald Soekers Vollendung' (1905); 'Nadeshda Bachini' (Berlin 1906); 'Aus den Papieren des Freiherrn von Skarpl' (1909); 'Der Verfalltag' (1911); 'Die Hochmögenden' (1912); 'Unter König Max' (1913).

JACOB WITTMER HARTMANN.

KNOPF, nōpf, **Siegmund Adolphus,** German-American physician: b. Halle, 27 Nov. 1857. He gained his early education at the Higher Municipal School, Halle, was graduated at the Sorbonne (Paris 1890). He gained his medical diplomas at Bellevue Hospital Medical College, New York (1888) and the Faculty of Medicine, Paris University (1895). He was made professor of medicine, department of phthisiotherapy at the New York Post-Graduate Medical School (1908), and was appointed visiting physician, Health Department's Riverside Sanatorium for Consumptives. He became honorary director, Gaylord Farm Sanatorium, Wallingford, Conn., honorary president, medical board Bruchesi Tuberculosis Institute, Montreal, Canada, etc. He was consulting physician at Saint Gabriel's, N. Y., Sanatorium for Consumptives; West Mountain Sanatorium, Scranton, Pa., etc., and is Fellow of the American Academy of Medicine, American Public Health Association, New York Academy of Medicine, Society of American Jurisprudence, American Medico-Psychological Association. Among his numerous honorary appointments were honorary vice-president, British Congress on Tuberculosis; government delegate International Prison Congress, Paris; vice-president Section V Tuberculosis Congress, Washington (1908). He took a leading part in subsequent tuberculosis propaganda and was first lieutenant Medical Reserve Corps, United States America. He wrote 'Les Sanatoria Traitement et Prophylaxie de la Phthsie pulmonaire' (thesis of 1895); 'Pulmonary Tuberculosis — Its Modern Prophylaxy, etc.' (1899); 'Die Tuberculose als Volks-Krankheit und deren Bekämpfung' (1900); the latter work was translated into English and 27 other languages. He also wrote 'Tuberculosis a Preventable and Curable Disease' (1913) and other works, besides numerous articles contributed to leading medical journals on tuberculosis and kindred subjects.

KNORR, knôr, **Iwan Otto Armand,** German composer: b. Mewe, West Prussia, 3 Jan. 1853. He was educated at the Leipzig Nikolai Gymnasium, Riga Realgymnasium and the Leipzig Conservatory. He was appointed musical teacher at the Royal Ladies' Institute and Conservatory, Charkow (1874–83), and on the recommendation of Brahms was made (1883) theory and composition teacher at Dr. Hoch's conservatory at Frankfort, becoming director in 1908. Of his compositions should be cited the operas, 'Dunja' and 'Durch's Fenster.' His other compositions consist of piano-quartets, orchestral pieces, solos, etc. His 'Ukrainische Liebesbilde' are popular. He wrote a biography of Peter Tschaikowsky and several works on music such as 'Aufgabe für die Harmonielehre'; 'Lehrbuch der Fugencomposition,' etc.

KNORR, Ludwig, German chemist: b. Munich, 2 Dec. 1859. He studied at his home town and at Heidelberg and Erlangen, becoming (1885) private teacher at the latter university, but, in the same year, went to Wurzburg, where he was raised to assistant professor (1888), becoming professor at Jena (1889) and Freiburg. His experimental research brought to light synthetics of chinolin and pyrol derivatives, also discovering (1884) the pyrazole compounds to which antipyrin belongs.

KNORTZ, nôrtz, **Karl,** American author: b. Garbenheim, near Wetzlar, 28 Aug. 1841. He was educated at Heidelberg University and came to the United States in 1863. He taught in Detroit, Oshkosh and Cincinnati, 1864–74, edited a German daily in Indianapolis for some years, and from 1892 to 1905 was superintendent of German schools in Evansville, Ind. In the latter year he removed to North Tarrytown, N. Y., and has devoted himself to letters. Among his numerous works are 'Tales and Legends of the North-American Indians' (1871); 'American Sketches' (1876); 'Longfellow' (1879); 'From the Wigwam' (1880); 'Capital and Labor in America' (1881); 'In-

dian Legends'; 'Pictures of American Life' (1884); 'History of American Literature,' in German (1891); 'Individuality' (1897); 'Child Study' (1899); 'Ein amerikanischer Diogenes' (1898); 'Poetischer Hauschatz der Nordamerikaner' (1902); 'Nackklänge germanischer Glaubers und Brauchs in Amerika' (1903); 'Streifzüge auf dem Gebiete amerikanischer Volkskunde' (1903); 'Friedrich Nietzsche, der Unzeitgemässe' (1909); 'Die Insekten in Sage, Brauch, und Literatur' (1910); 'Walt Whitman und seine Nachfolger' (1910); 'Reptilien und Amphibien in Sitte, Sage, und Literatur' (1911); 'Teufel, Hexe, und Blocksbergspuk' (1913); 'Die Vögel im Sage, Sitte, und Literatur' (1913); 'American Jews' (1914); 'American Superstitions of To-day' (1913). He has very materially assisted in making American authors known in Germany through his translations into German poems of Longfellow, Whittier and Walt Whitman.

KNOT, a snipe (*Tringa canuta*) known in its migrations throughout the world, but breeding only in the extreme north, where its pale-green, spotted eggs have been found in only one instance. It appears in small flocks along all shores, and is a favorite with gunners under the names robin-snipe and gray snipe. Its plumage is a mingling of black and white suffused with a reddish tint on the under parts. The book-names refer to its habit of seeking its food just at the edge of the surface, where King Canute is fabled to have seated himself in defiance of the tide.

KNOT, a term synonymous for a nautical mile. The log-line is divided by knots (or otherwise) into sections 1/120 of a geographical mile in length, hence the number of sections run out in half a minute (the 120th of an hour) indicates the number of knots or geographical miles per hour at which the ship is going. The rate at which a vessel sails, or can sail, is usually given in knots per hour, the Admiralty knot or measured mile being 6,080 feet. It is longer than an ordinary statute mile by about one mile in seven; = 1.151 statute miles.

KNOT-GRASS. See GRASSES.

KNOTS. See KNOTTING AND SPLICING.

KNOTT, A(loysius) Leo, American lawyer: b. near New Market, Frederick County, Mo., 12 May 1829; d. Baltimore, 21 July 1918. He received his education at Saint Mary's College, Baltimore, and studied law with William Schley of that city. He began his career as a teacher at the Cumberland Academy; taught Greek and algebra at Saint Mary's College, Baltimore, and founded the Howard Latin School of Howard County, Md. After his admission to the bar he practised law with James H. Bevans for two years. Becoming interested in politics he was active in the Reform movement of 1859 and in the Democratic party from 1864 to 1866. In 1866–67 he was a member of the Maryland house of delegates and from 1867 to 1879 was district attorney of Baltimore. In 1899–1900 he was a member of the Maryland assembly and from 1900 to 1904 was professor of elementary law and constitutional law, and since 1904 of international law at the Law School of the University of Baltimore. In 1907 he retired from the practice of law. He was a delegate to the Democratic Convention at Baltimore in 1860 and to the Chicago Convention of the same party in 1864, also the conventions of 1872 and 1900. He has participated in cases tried before international commissions, principally in Latin-American affairs. He was sent as special envoy to Cuba in 1886 to arrange a mail route between the United States and that island. He is a member of the Maryland Historical Society and many other learned bodies. His works include 'A Relation of Some Political Transactions in Maryland' (1898) and contributions to the 'Encyclopedia Americana'; 'The Catholic Encyclopedia,' newspapers and periodicals.

KNOTT, nŏt, **Cargill Gilston**, British physicist: b. Penicuik, Scotland, 30 June 1856. He studied at Edinburgh University and was appointed assistant professor of natural philosophy there (1879–83). He next became professor of physics at the Imperial University, Tokio, Japan, conducting a magnetic survey of the empire (1887). Returning to Scotland (1892), he lectured on applied mathematics and was awarded the Keith Prize of the Royal Society of Edinburgh for special research work on magnetic strains (1897). He was selected as Thomson lecturer, subject earthquakes, at the United Free Church College, Aberdeen (1905–06) and on radio-activity (1913–14). Among his many works are 'Electricity and Magnetism'; 'Physics of Earthquake Phenomena' (1908). His 'Photometry' is in its 11th edition; he revised Kelland and Taits, 'Quaternions' (1904, 3d ed.).

KNOTT, James Proctor, American legislator and legal scholar: b. near Lebanon, Ky., 29 Aug. 1830; d. Lebanon, Ky., 18 June 1911. He studied law, was admitted to the Missouri bar in 1851, and entered practice at Memphis, Mo. In 1858 he was elected to the Missouri legislature, in 1859 was appointed to the office of attorney-general of Missouri to fill a vacancy and in 1860 was elected to that post. Having refused, at the beginning of the Civil War, to take an oath of allegiance which he considered too severe, he was for a time imprisoned in the Saint Louis arsenal. In 1862 he removed to Kentucky, where he established himself as a practitioner at Lebanon; and in 1867–71 and 1875–83 served in Congress as Democratic representative from the 4th Kentucky district. He was long chairman of the House Committee on the Judiciary. In the 41st Congress he made his well-known speech on Duluth, ridiculing the pretensions of the lake town, and gaining a national reputation as a humorist. He was governor of Kentucky in 1883–87, a delegate to the Kentucky Constitutional Convention in 1891, professor of civics and economics in Centre College (Danville, Ky.) in 1892–94, and from 1894–1901 professor of law and dean of the law faculty of Central University.

KNOTTING AND SPLICING, the fastening or tying of ropes or cords. There are hundreds of varieties of knots, most of which are used only on shipboard. Generally the requirements of a useful knot may be stated to be that it should neither "slip" nor "jam," that, while it holds without danger of slipping while the strain is on it, when slackened it should be easily untied again. The simplest knot is the common one tied on the end of a thread or

cord to prevent it slipping. By passing a loop instead of the end of the cord the common slip-knot is formed; and a useful fixed loop is got by tying a simple knot, or the "figure of 8 knot" on the loop of a cord. One of the simplest and most useful running knots for a small cord is made by means of two simple knots. The most secure method of fastening a line to, say, a bucket is the standing bowline; and a running bowline is formed by passing the end through the loop, thus making a running loop. Out of the score or so of methods of fastening a boat's painter the one which will be found most useful is the well-known two half-hitches. The timber hitch is useful for attaching a line to a spar or a stone, and the clove hitch is invaluable for many purposes. It is very simple and cannot slip. A simple method of fastening a rope to a hook is the blackwall hitch, where the strain on the main rope jams the end so tightly against the hook that it cannot slip. There are many methods for shortening a rope temporarily, one of them being the sheepshank.

Of the methods for uniting the ends of two cords the simplest and one of the most secure is the common reef knot, which must be carefully distinguished from the "granny," which will jam if it does not slip; the reef knot will do neither. For very small cords or thread the best knot is the weaver's. The fisherman's knot is a very useful one for anglers, and is formed by a simple knot in each cord being slipped over the other; when drawn taut it is very secure, and it is easily separated by pulling the short ends. A useful method of uniting large ropes is to tie a simple knot on the end of one rope and interlace the end of the other, and draw taut. This tie may also be made with the figure of 8 knot. For very large ropes the carrick bend is the simplest and most secure. The bowline bend is formed by looping two bowline knots into each other. For attaching a small line to a thick rope the becket hitch is very useful.

"Splicing" is the process employed to join two ropes when it is not advisable to use a knot. The three chief varieties of the splice are the short splice, the long splice and the eye splice. The short splice is made by unlaying the ends of two ropes for a short distance and fitting them closely together; then, by the help of a marlinspike, the ends are laced over and under the strands of the opposite rope. When each strand has been passed through once, half of its thickness is cut away and the remainder passed through again; half of the remainder being also cut away, it is passed a third time, and, when all the strands are so treated, they are hauled taut and cut close. This reducing the thickness of the strands tapers off the splice. The long splice is employed when the rope is used to run through a block, as it does not thicken it. The ends of the two ropes are unlaid for a much longer distance than for the short splice, and similarly placed together. Then one strand is taken and further unwound for a considerable distance, and its vacant place filled up with the corresponding strand of the other rope, and the ends fastened as in the short splice. Other two of the strands are similarly spliced in the opposite direction, and the remaining two fastened at the original joining place. The eye splice is, as the term implies, used to form an eye, or round a dead eye.

To prevent a rope fraying at the ends a variety of methods are employed, the simplest being to serve or whip the end with small cord.

KNOUT, nowt, or noot, the official instrument of punishment formerly used in Russia, dating from about 1450, made in various forms, but usually being a heavy whip of leather thongs artificially hardened, twisted with wire and sometimes hooked at the ends, etc. One hundred strokes were considered equivalent to a sentence of death, as the victim seldom survived. On account of the severity of the punishment Nicholas I issued an order substituting punishment with a lighter whip of three thongs, known as the pleti.

KNOWER, Henry McElderry, American anatomist: b. Baltimore, 5 Aug. 1868. He was graduated (1890) at Johns Hopkins, was appointed assistant in biology (1891–93), and became Adam T. Bruce Fellow (1895–96) and Ph.D. (1896). He became instructor of biology at Williams College (1896–97), instructor of anatomy (1899–1908) and associate at Johns Hopkins (1908–09). In 1909–10 he lectured on anatomy at the University of Toronto, becoming in the latter year professor of anatomy of the University of Cincinnati. He was appointed (1897) assistant in zoology at the Marine Biological Laboratory, Woods Hole, Mass., (1897) and librarian (1900). He was co-editor and secretary of the *American Journal of Anatomy.* He specialized chiefly in embryology and anatomy of termites research, and in lymphatic and vascular systems of frog embryos experimentally and by injection; muscles of the human heart, etc.

KNOWLEDGE, Theory of. See EPISTEMOLOGY.

KNOWLES, nōlz, **Frederic Lawrence,** American poet: b. Lawrence, Mass., 8 Sept. 1869; d. Boston, Mass., 20 Sept. 1905. He was educated at the New Hampshire Conference Seminary of which his father, Daniel C. Knowles, was president for many years. After graduation he taught for some time in his father's seminary and at Wesleyan University and Harvard. His verse attracted attention even in college days. His poems appeared in the best magazines and received wide quotation. The week before he died he wrote:

> "This body is my house — it is not I,
> Triumphant in this faith I live and die."

He was the author of 'Love Triumphant' (1904, also 2d ed.); 'On Life's Stairway' (1900; 3d ed., 1905). He compiled and edited several collections of poetry, the most important of which are 'Poetry of American Wit and Humor' (1899); 'Cap and Gown'; 'College Verse — Second Series' (1900); 'Golden Treasury of American Songs and Lyrics' (1901); 'Yearbook of Famous Lyrics' (1901); 'Treasury of Humorous Poetry' (1902); 'Value of Friendship' (1904); 'Value of Courage' (1905); 'Value of Love' (1906).

KNOWLES, James Sheridan, Irish dramatist and actor: b. Cork, Ireland, 21 May 1784; d. Torquay, Devonshire, 30 Nov. 1862. He served as an ensign in the militia, became a M.D. of Aberdeen University, and then went upon the stage, but meeting with small success,

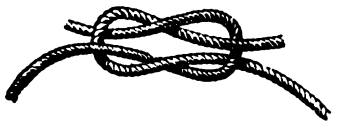
KNOTS

Overhand Knot

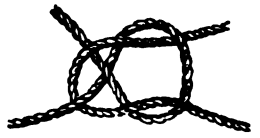
Half Hitch

Two Half Hitches

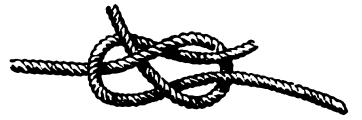
Midshipman's Hitch



Granny Knot



Fisherman's Knot



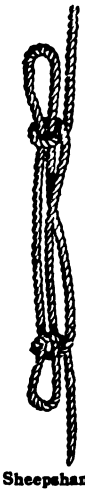
Sheet Bend

Bowline Knot

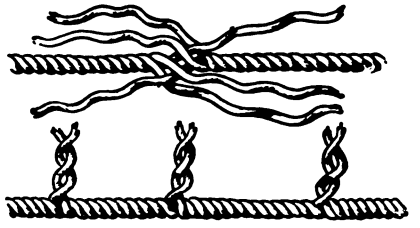
Running Bowline

Inside Clinch

Figure Eight Knot



Sheepshank

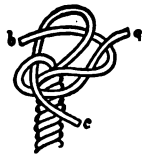


Long Splice

Carrick Bend

KNOTS, HITCHES AND SPLICES

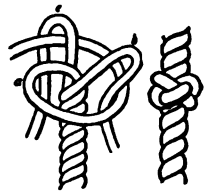
KNOTS



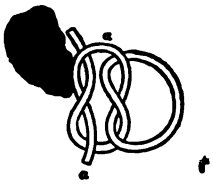
Single Wall Knot

Wall and Crown

Double Wall and Double Crown

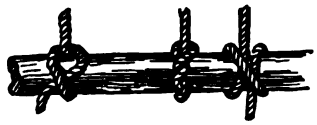


Diamond Knot



Reef Knot

Short Splice

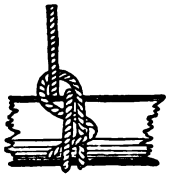


Half Hitch

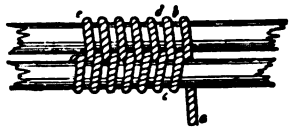
Timber Hitch

Clove Hitch

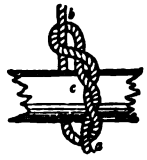
Marlin Spike Hitch



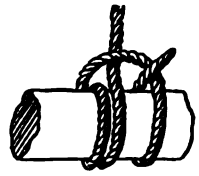
Studding-Sail Halyard Hitch



Sacking Seizing



Timber Hitch



Magnus Hitch

Double Blackwall Hitch

Eye Splice

Single Blackwall Hitch

Cat's Paw

KNOTS, HITCHES AND SPLICES

taught school in Belfast and Glasgow. His tragedy of 'Caius Gracchus' was performed at Belfast in 1815 with success, and from this time he had a prosperous career. He visited the United States in 1834. In 1844 he underwent conversion and became a Baptist; he then took a prominent part in the work of religious revival, became known as an anti-Roman Catholic controversialist, but never preached against the stage. In 1848 he received a pension of £200 a year from government. Among his principal works are the dramas 'Caius Gracchus' (1815); 'William Tell' (1825); 'Virginius' (1820); 'The Hunchback' (1832); 'The Wife: a Tale of Mantau' (1833); 'The Love-chase' (1837); 'Love' (1839). He published besides various poetical pieces, tales and novels, and in his later years works denunciatory of Roman Catholicism.

KNOWLES, Lucius James, American inventor: b. Hardwick, Mass., 2 July 1819; d. Washington, D. C., 25 Feb. 1884. He became a clerk in a shop at Shrewsbury, Mass., the first photographer using the system of Daguerre in Worcester, Mass., turned his attention to inventing, devised the Knowles safety steam-boiler feed-regulator, and constructed and operated several models of steam-engines. In 1843 he invented a machine for the spooling of thread, and this machine he manufactured at New Worcester in 1843–45. He then built spinning-machines for the manufacture of four- and six-cord thread, and manufactured cotton thread and warps at Spencer and Warren, Mass. (1847–53), and woolen goods at Warren (1853–59). Subsequently he manufactured a safety boiler-feeder, a steam pump and a tape loom, under his own patents. He took out over 100 patents, mostly for loom improvements. His plant for the manufacture of looms and their accessories was located at Worcester, Mass., where it was later combined with an English concern and now, under the name Crompton and Knowles Loom Works, has branches in all parts of the world. The Knowles Pump Works, too, have grown to be one of the largest in the world. He was elected to the lower house of the Massachusetts legislature in 1862 and 1865, and in 1869 became State senator. Williams College in 1865 gave him the degree of A.M. Consult Roe, A. S., 'Lucius J. and Francis B. Knowles' (in *New England Magazine,* N. S. Vol. XXXI, p. 483, Boston 1904).

KNOWLES, Robert Edward, Canadian novelist: b. Maxville, Ontario, 30 March 1868. He is a graduate of Manitoba College and of Queen's College, Kingston, was appointed minister of Stewart on Church, Ottawa, 1891, and from 1898 has been pastor of Knox Church, Galt, Ontario. He is the author of 'St. Cuthbert's' (1905); 'The Undertow' (1906); 'Dawn at Shanty Bay' (1907); 'The Attic Guest' (1909); 'The Singer of the Kootenay' (1911).

KNOWLING, nō'ling, **Richard John,** English clergyman and educator: b. Devonport, Devonshire, 16 Sept. 1851. He was educated at Balliol College, Oxford, and was ordained deacon in 1875 and priest 1876 in the Church of England. He was classical master in the Abingdon Grammar School, 1874–76; curate of Wellington Somerset, 1876–78 and of Saint Martin-in-the-Fields, London, 1878–84; censor and lecturer in King's College, London, 1884–90; vice-principal of King's College, 1890–97; professor of New Testament exegesis 1894–1905; professor of divinity in Durham University and canon of Durham since 1905. He was select-preacher at Cambridge University 1895; and became Fellow of King's College, London 1899. He was examiner at Oxford University 1897, 1905, and at the University of London 1905–06; examining chaplain to the archbishop of Canterbury and the bishop of Exeter, 1903–05, and Boyle lecturer for the same period. His writings include 'The Witness of the Epistles' (1892); 'Acts of the Apostles,' in the 'Expositors Greek Testament' (1901); 'Our Lord's Virgin Birth and the Criticism of To-day' (1903); 'The Epistle of Saint James' (1904); 'The Testimony of Saint Paul to Christ' (1905; new ed., 1911); 'Literary C[redacted]icism and the New Testament' (1907); 'M[redacted]sianic Interpretations and Other Stu[redacted] (1911).

KNOWLTON, nōl'tŏn, **Frank Hall,** American botanist and palæontologist: b. Brandon, Vt., 2 Sept. 1860. He was graduated from Middlebury College, Vt., in 1884, and in 1898 took the degree of Ph.D., George Washington University; was assistant palæontologist on the United States Geological Survey, 1889–1900, and palæontologist from 1900 to 1907, and geologist from the latter year. Among his scientific monographs are 'Fossil Wood and Lignite of the Potomac Formation' (1889); 'Fossil Flora of Alaska' (1894); 'Catalogue of the Cretaceous and Tertiary Plants of North America' (1896); 'Fossil Flora of the Yellowstone National Park' (1898); 'Flora of the Montana Formation' (1900); 'Birds of the World' (1909); 'Flora of the Raton Mesa Region of Colorado and New Mexico' (1916); 'Flora of the Laramie of the Denver Basin of Colorado' (1916). *The Plant World,* which he had founded in 1897, he edited until 1904. He was a contributor to the Century, Standard and Webster's dictionaries and to the Jewish 'Encyclopædia.'

KNOWLTON, Thomas, American soldier: b. West Boxford, Mass., 30 Nov. 1740; d. battle of Harlem Plains, N. Y., 16 Sept. 1776. He enlisted in the last French and Indian War, took part in the capture of Ticonderoga (1759), and in 1762 went with General Lyman's forces to Cuba as second lieutenant. After the siege of Havana he took up farming. Living at Ashford, Conn., at the beginning of the Revolution, he was elected captain of a militia company organized after Lexington, and with 200 other Connecticut troops was sent to Charlestown. His detachment, ununiformed farmers with shot-guns, fought at Bunker Hill. On 8 Jan. 1776 he made a successful invasion of Charlestown, and subsequently became lieutenant-colonel of the 20th regiment and then of a regiment of Connecticut rangers, usually known as "Knowlton's Rangers." He was killed while leading his command at the battle of Harlem Heights, and was highly praised by Washington in general orders. A statue was erected to his memory by his State in 1895 on the capital grounds at Hartford. Consult

Coffin, C., ed., 'The Lives and Services of Major-General J. Thomas, Colonel Thomas Knowlton, etc.' (New York 1845); Woodward, A., 'Memoir of Col. T. Knowlton' (Boston 1861); Woodward, P. H., and others, 'Statue of Col. Thomas Knowlton' (Hartford 1895).

KNOW-NOTHING PARTY, The, resulted from nativism in American politics and from the organization of secret political associations such as the United American Mechanics and the Order of the Sons of America in Pennsylvania; the Order of United Americans and the Order of the Star Spangled Banner in New York, founded for the purpose of obtaining the repeal of the Naturalization Law and of the law which permitted others than native Americans to hold office. As a definite political party it may be said to have started in 1852 and existed two or three years. The principles of the Know-nothing party were embodied in the following propositions (at New York, 1855): (1) The Americans shall rule America. (2) The perpetuation of the union of these States. (3) No North, no South, no East, no West. (4) The United States of America — as they are — one and inseparable. (5) No sectarian interferences in our legislation or in the administration of American law. (6) Hostility to the assumption of the Pope, through the bishops, etc., in a republic sanctified by Protestant blood. (7) Thorough reform in the naturalization laws. (8) Free and liberal educational institutions for all sects and classes, with the Bible, God's holy word, as a universal textbook. A society was formed in 1855 in opposition to the above, called Know-somethings. Both bodies were absorbed into the two parties, Democrats and Republicans, at the Presidential election in 1856.

The Know-nothing organization was primarily the result of foreign emigration. In 20 years from 1825 to 1845 the immigration amounted to 1,028,225. The consequence was a sharp awakening of native American prejudice and alarm. The sentiment first showed itself in New York, where the alien population had reached portentous proportions, in the estimation of citizens of the old stock. A native organization for political purposes was effected, and in 1844 it succeeded in electing James Harper mayor on a native American ticket. About this time began the great immigration due to the Irish famine, and in the five years from 1845 to 1850 there came in about as many aliens as had been received during the whole 20 years before. Native Americanism flamed up hotter than ever, and its political conflagration extended to other cities and States. The great volume of the Irish immigration was Roman Catholic, and animosity to that Church gave it fire. At Philadelphia two Roman Catholic churches were destroyed in riots between natives and Irish; at Boston a convent was burned. Six native American representatives were elected to the 29th Congress, that of 1845, four from New York and two from Pennsylvania. Between 1850 and 1855 the immigration amounted to nearly 2,000,000, and the native spirit was aroused even more hotly. Moreover, the anti-slavery agitation, expressing itself in opposition to the extension of slavery to the Territories, was disturbing party allegiance, and special efforts were made to kindle the native American spirit into a hot flame, with an ulterior motive, it was believed, of turning the current of public sentiment into other channels.

In 1852 the Know-nothing organization, distinctly, made its appearance. It was so-called because it was a secret oath-bound fraternity, regarding whose objects and whose real name its members always answered when questioned: "I don't know." "Americans must rule America!" was its rally cry, and relentless hostility to the increasing power of the Roman Catholic Church and a demand for the extension of the qualification for naturalization to a residence of 21 years were its main purposes. The Know-nothings started off brilliantly. In 1854 they carried the State elections in Massachusetts and Delaware, and polled a great number of votes in New York. In 1855 they elected governors and legislatures in New York and four New England States, and in the South and West they were successful or nearly approached success in nine States. In 1856 eight of the 32 States had native American governors, but in the Presidential election of that year the party cast only about one-fifth of the popular vote and obtained only eight electoral votes, the votes of the single State of Maryland. In the 34th Congress, 1855, it had 5 senators, 43 out-and-out Know-nothings as Congressmen and 70, nominally Republicans, but members of Know-nothing councils. In the 35th Congress, 1857, it had 5 senators and 14 representatives. In the next Congress it had 2 senators and 23 representatives, all of them from Southern States. Soon thereafter Know-nothingism went to pieces rapidly and no more of it was heard in politics. It had no representation in Congress after the 36th. Amongst its most determined opponents were Henry Ward Beecher and Horace Greeley. (See also AMERICAN PARTY). Consult Carroll, A. E., 'The Great American Battle' (New York 1856); Cluskey, M. W., 'Political Text-Book and Encyclopedia' (Philadelphia 1860); Cross, I., 'The Origin, Principles and History of the American Party' (in *Iowa Journal of History and Politics*, Vol. IV, p. 526, Iowa City 1906); Davis, H. W., 'Speeches and Addresses' (New York 1867); Desmond, H. J., 'The Know-Nothing Party' (Washington 1904); Gay, C. M., 'The Campaign of 1855 in Virginia and the Fall of the Know-Nothing Party' (in *Richmond College Historical Papers*, Vol. I, p. 309, Richmond 1906); Haynes, G. H., 'Causes of Know-nothing Success in Massachusetts' (in *American Historical Review*, Vol. III, p. 67, New York 1897); id., 'A Know-nothing Legislature; Mass., 1855' (in American Historical Association, Annual Report for 1896, Vol. I, p. 175, Washington 1897); Hutchinson, E., '"Young Sam"; or Native Americans' Own Book' (New York 1855); McMaster, J. B., 'Riotous Career of Know-nothingism' (in *Forum*, Vol. XVII, p. 524, New York 1894); Rhodes, J. F., 'History of the United States, 1850–1877' (Vol. II, New York 1893); Schmeckebier, L. F., 'History of the Know-Nothing Party in Maryland' (in *Johns Hopkins University Studies in Historical and Political Science*, Series XVII, Nos. 4–5, Baltimore 1899); Scisco, L. D., 'Nativism in New York State' (New York 1901); Senning, J. P., 'The Know-nothing Movement in Illinois, 1854–56'

(in *Illinois State Historical Society Journal*, Vol. VII, p. 7, Springfield 1914); Stickney, C., 'Know-Nothingism in Rhode Island' (in *Papers from Historical Seminary, Brown University*, Vol. III, Providence 1894); Wise, H. A., 'Religious Liberty, etc.' (Alexander, Va., 1854); id., 'The Life and Death of Sam, in Virginia' (Richmond 1856); Woodburn, J. A., 'Political Parties and Party Problems in the United States' (New York 1914).

KNOX, George William, American Presbyterian clergyman: b. Rome, N. Y., 11 Aug. 1853; d. 1912. He was graduated from Hamilton College, Clinton, N. Y., in 1874, and from Auburn Theological Seminary in 1877. He subsequently was employed in missionary labors in Japan and was professor of philosophy and ethics in the Imperial University of Japan in 1880. He made profound researches in Japanese philosophy and had no equal among American scholars in his knowledge of Confucianism in its Japanese form. On returning to the United States he became pastor of a Presbyterian church in Rye, N. Y., and was a professor at Union Seminary, New York, 1897–99, and thereafter professor of philosophy and the history of religion. He published (in English) 'A Japanese Philosopher' (1893); 'The Christian Point of View' (1902); 'The Direct and Fundamental Proofs of the Christian Religion' (1903; 1908), regarded as one of the great books of the century; 'Japanese Life in Town and Country' (1904); 'Imperial Japan' (1905); 'Spirit of the Orient' (1906); 'The Development of Religion in Japan' (1907); 'The Gospel of Jesus' (1909); (in Japanese) 'A Brief System of Theology'; 'Outlines of Homiletics'; 'Christ, the Son of God'; 'The Basis of Ethics'; 'The Mystery of Life.'

KNOX, nŏks, **Henry,** American general and statesman: b. Boston, Mass., 25 July 1750; d. Thomaston, Me., 25 Oct. 1806. He was the seventh son of William Knox, of Scotch extraction, who settled in Boston and became a shipmaster. After the father's death in 1762, the son was employed by a Boston bookseller, and in 1771 he opened a bookstore of his own. When a young man he threw in his lot with the patriot cause and spent his leisure studying books on the military art, supplementing his reading by observing and questioning the British officers stationed in Boston. He also joined a military company and, upon its organization, became second in command of the Boston grenadier corps. He was interested in athletics and sports and, in 1773, while hunting lost two fingers of his left hand. His marriage (16 June 1774) to Lucy Flucker, the daughter of an aristocratic Loyalist of Boston, did not prevent him from joining the Colonial army at the outbreak of hostilities in the spring of 1775. He fought in the battle of Bunker Hill, acting as aide of General Ward, and then aided in constructing the defenses of the camps around Boston. The army being in pressing need of artillery, Knox proposed to Washington the plan of bringing heavy cannon and stores from Fort Ticonderoga near the Canadian frontier. He set out (15 Nov. 1775) on this perilous enterprise with a squad of mounted men. In the face of great difficulties he succeeded in getting 55 (by some accounts 59) guns, loaded them on sleds, with 23 boxes of lead and a barrel of flints, and reached Cambridge in safety (24 Jan. 1776). For this brilliant exploit he was warmly complimented by Washington. After his return he received his commission as colonel of the one artillery regiment, the appointment having been made by the Continental Congress (17 Nov. 1775). The cannonade of Knox's batteries (on the nights of 1–4 March 1776) enabled General Thomas to take possession of Dorchester Heights, which resulted in the evacuation of Boston by the British forces. In the summer of 1776 he was stationed at New York City with Washington, who found him a true friend and an able officer. In December he was promoted to brigadier-general of the artillery. He distinguished himself in the battles of Trenton and Princeton and took part in the engagements at Brandywine, Germantown and Monmouth. He helped (May 1777) General Greene in planning the defenses of the Hudson River. In the trying winter of 1777–78 he was in camp at Valley Forge, with his young wife. Many of Washington's letters refer to Knox in terms of high appreciation. He rendered valuable service in the operations against Cornwallis in October 1781, his skill as an artillerist being praised by the Frenchman, De Chastellax. He was made major-general (22 March 1782) and appointed to the command at West Point (29 Aug. 1782). Upon him devolved the delicate task of disbanding the army late in 1783. He had already formed the Society of the Cincinnati (q.v.) to keep alive the friendships of officers formed during the war.

Congress appointed Knox Secretary of War (8 March 1785), a position he worthily filled for 10 years. In 1794 he was also at the head of the Navy Department, just organized. Owing to insufficient salary, he resigned from Washington's Cabinet (2 Jan. 1795). His remaining years were passed on his estate, Montpelier, near Thomaston, Me. Consult Brooks, N., 'Henry Knox, a Soldier of the Revolution' (New York 1900); Drake, F. S., 'Life and Correspondence of Henry Knox' (Boston 1873); Lindley, E. M., 'Montpelier, Home of Major-General Henry Knox' (in *Magazine of American History*, Vol. XVI, p. 121, New York 1886); Stimpson, M. S., 'Thomaston — The Home of Knox' (in *New England Magazine*, N. S. Vol. XXIX, p. 730, Boston 1904).

KNOX, John, Scottish Protestant reformer: b. Giffordgate, Haddington, Scotland, 1505; d. Edinburgh, 24 Nov. 1572. (The Society of Antiquaries of Scotland discussed the subject of his birthplace in 1858, when Mr. John Richardson of Haddington brought forward evidence that he was born in Giffordgate, a suburb of Haddington, and not in Gifford, a village near that town. He was supported in this view by Mr. Laing, the editor of the reformer's works). After receiving his preliminary education at the grammar school of Haddington, he went in 1521 to the University of Glasgow, where for several years he studied scholastic philosophy and theology. Noted as a master of dialectic subtleties, he was ordained prior to 1530 and became a teacher of philosophy at Saint Andrew's. The study of the fathers, especially of Jerome and Augustine, had shaken his religious opinions as

early as 1535, but it was not till 1542 that he became an avowed and marked reformer. The long period of silence, before in mature age he explained his views with completeness, has been regarded as proof that he was naturally of a prudent and peaceful disposition and not a turbulent partisan, as his after career would indicate. His reprehension of certain practices of the Church caused him to retire from Saint Andrews to the south of Scotland, where he was declared a heretic. After the death of his friend, George Wishart, he remained in retirement till he took refuge with many other Protestants (1547) in the castle of Saint Andrews, which the regent was vainly attempting to reduce. There for the first time he became known as a powerful preacher against the papacy. The regent, re-enforced by a French squadron, obliged the garrison to surrender. The terms of the capitulation were violated and Knox with his comrades was transported to France, where he was imprisoned on the galleys for 19 months. He experienced extreme hardships, and on his release (1549) directed his course to England, where he was appointed to preach at Berwick and at Newcastle and became one of the chaplains of Edward VI. For the boldness of his discourses he was several times called to account, but was able to vindicate himself. A bishopric was offered to him, but he declined it from scruples as to the divine authority of the episcopal order. On the accession of Queen Mary he fled from England to Dieppe and passed thence to Geneva, where, after taking part in the memorable troubles at Frankfort and after a short visit to Scotland, he became pastor (1556) of a small English congregation. The two years of his residence in Geneva, in the society of Calvin, Beza and other learned men, were among the happiest of his life. While in Scotland he had been cited to appear before an assembly of the clergy to be held at Edinburgh, and after his return to Geneva the citation was renewed and he was condemned to be burned as a heretic and the sentence was executed on his effigy. Against this condemnation he published the 'Appellation of John Knoxe.' He also wrote a tract entitled the 'First Blast of the Trumpet against the Monstrous Regiment of Women' (1558), a vehement attack on the political government of women, at a time when Mary of Guise was regent of Scotland and Mary Tudor queen of England, and the nearest in succession to both thrones were females. Invited by the Scottish Protestants to resume his labors in his native country, he landed at Leith in 1559. The queen regent had laid her plans for the forcible overthrow of the reformation. At a convention of the nobility and clergy in Edinburgh all the demands of the Protestants were refused. Several of the reforming preachers were summoned to appear at Stirling for trial, but by the dissimulation of the regent were prevented from attending and then outlawed for their failure. Knox hastened to meet them at Perth, where he preached against the "idolatry of the mass" and the veneration of images. At the conclusion of the service there was a violent outbreak. The images in the churches were demolished, the pictures torn from the walls and trampled under foot, the holy recesses invaded and the "rascal multitude," as Knox calls them, did not stop till they had sacked and laid in ruins the houses of the Dominican and Franciscan friars and the Carthusian monastery. The queen regent advanced upon Perth with an army, but, finding the Protestants well prepared for resistance, proposed terms of accommodation which were accepted. The Protestants, in order to consolidate their strength, formed a religious bond or covenant and began to be distinguished as the congregation and their leaders as the lords of the congregation. Iconoclasm was a prominent feature in the Scottish reformation. Events similar to those at Perth followed at Stirling, Lindores, Cupar, Saint Andrews and other places. Knox had preached in the cathedral of Saint Andrews with such success that the magistrates united with the inhabitants in desolating the churches and monasteries and in establishing the reformed worship. Meantime civil war raged throughout the kingdom between the regent, assisted by French troops, and the lords of the congregation. In political as well as ecclesiastical affairs Knox was a conspicuous adviser and took up his residence in Edinburgh after an extensive circuit through the southern and eastern counties. After a contest of 12 months, the vigorous assistance rendered by Elizabeth and the death of the queen regent while the English troops were investing Edinburgh led to a truce and to the summons of the Parliament to settle differences. Parliament assembled in August 1560, the reformed religion was established and Roman Catholicism interdicted by law in Scotland. Soon after the arrival of the young Queen Mary (21 Aug. 1561) she summoned the influential and noted reformer to her presence. Six interviews are recorded between him and the queen, and the questions which she raised were discussed by him with a rude vehemence and rigor, which once drove her to tears. She caused his arrest on a charge of treason in 1563, but all the councillors except the immediate dependents of the court voted for his acquittal. The vehemence of his public discourses led him into frequent difficulties. In 1562 he disputed publicly for three days with Abbot Quentin Kennedy at Maybole; in 1565 he quoted certain texts which gave offense to the court and was for a short time prohibited from preaching. He fled from Edinburgh when the queen returned from Dunbar after the death of Rizzio; and he preached a sermon at the coronation of the infant king at Stirling (29 July 1567). Under the brief regency of Moray, the work of Knox seemed to be completed, but after the assassination of Moray, civil and religious confusion returned under the regency successively of Lennox and Mar. Weakened by a stroke of apoplexy in 1570, Knox yet reappeared in the pulpit, but so violent was the enmity excited by his animadversions that he left Edinburgh for Saint Andrews, 5 May 1571. He returned in the following year and his last energies were put forth in denunciations of the perpetrators of the massacre of Saint Bartholomew's. The doctrines of Knox embraced a Calvinistic creed and a Presbyterian polity. The "Order of Geneva," a liturgy which he shared in preparing for the use of the church at Frankfort, and subsequently employed in his congregation at Geneva, was introduced into Scottish

Protestant churches in 1565. His character was marked by a stern realism, which could be beguiled by no social pretensions, no conventional dignities, no pompous traditions. From this sprang his scornful bitterness and his insensibility to the social graces and refinements which Mary exhibited. He was not a thinker except on political topics. His 'History of the Reformation of Religioun in the Realme of Scotland' is the best known of his writings. The liturgy prepared by him has been edited by Sprott under the title 'The Book of Common Order of the Church of Scotland' (London 1911). Consult 'Lives,' by McCrie (1813); Taylor (1885); Brown, P. H. (1895); Lorimer, 'John Knox and the Church of England' (1875); Carrick, 'John Knox and his Land' (1902); Hart, A. B., 'John Knox as a Man of the World' (in *American Historical Review*, Vol. XIII, Lancaster, Pa., 1908).

KNOX, John, English military chronicler: d. Berwick, England, 1778. He became an ensign in the 43d Foot, rose to be captain, was present at the sieges of Louisbourg in 1757 and 1758, served in Wolfe's forces before Quebec, and remained in Canada until after the capitulation of Montreal in September 1760. His 'Historical Journal of the Campaigns in North America, 1757–60,' is the most valuable first-hand record of the events described that has ever been published. Consult Dr. A. G. Doughty's edition, published by the Champlain Society (3 vols., 1914, 1916).

KNOX, John Barnett, American lawyer: b. Talladega, Ala., 16 Feb. 1857. His education was received at private schools, and after studying law, he was admitted to practise in 1878. Ten years later he removed to Anniston, Ala., where he has since resided, and soon became one of the most prominent lawyers in the State. He has taken an important part in State politics, was delegate to Democratic National conventions of 1892, 1896 and 1912 and was twice chairman of the Democratic State Executive Committee. In the State Constitutional Convention of 1901 he was the president. In the debates of this convention and in the framing of the constitution he took an active part. His arguments on the legal problems involved showed that he was a master of constitutional law.

KNOX, John Jay, American financier: b. Knoxboro, N. Y., 19 March 1828; d. New York, 9 Feb. 1892. He was graduated at Hamilton College in 1849, and was a banker till 1862. In that year he received an appointment from Secretary Chase, and subsequently had charge of the mint coinage correspondence of the Treasury Department, becoming in 1867 deputy comptroller of the currency. A bill which he proposed was passed with a few modifications and is known as the Coinage Act of 1873. In 1872 he was appointed comptroller of the currency, resigning in 1884, to become president of the National Bank of the Republic, New York. In addition to various Reports and addresses on financial subjects he published 'United States Notes, a History of the Various Issues of Paper Money by the Government of the United States' (New York 1884, revised 1887). Some years after his death there was brought out by B. Rhodes and E. H. Youngman, his 'A History of Banking in the United States' (New York 1900). Consult *Chamber of Commerce of the State of New York*, 'Tribute to the Memory of John Jay Knox' (New York 1892).

KNOX, Philander Chase, American lawyer and statesman: b. Brownsville, Pa., 6 May 1853. He was graduated from Mount Union College, Ohio, in 1872; studied law and was admitted to the bar in 1875. He was assistant United States district attorney for the western district of Pennsylvania in 1876–77; resigning this position he took up the practice of law in Pittsburgh in partnership with J. H. Reed. The firm's practice grew rapidly and Knox became known as one of the most successful corporation lawyers in the United States; in 1892 he was counsel for Carnegie during the Homestead strike. April 1901 he was appointed Attorney-General of the United States and held this office till June 1904 when he became senator from Pennsylvania for the unexpired term of Senator Quay, and in 1905 was elected for a full term. He served on the Judiciary Committee and took a prominent part in the debate relating to the Panama Canal. As Attorney-General he was involved in the "anti-trust" agitation, and in 1902 brought suit against the Northern Securities Company and the so-called "Beef Trust" on the ground that they were violating Federal statutes. In 1909 he became Secretary of State in President Taft's Cabinet. He was not considered to have been as successful in this office as in that of Attorney-General. In 1912 he made a tour of the Latin-American countries for the purpose of cementing closer relations between them and the United States. He was re-elected to the United States Senate in 1916 for the term 1917–23. He has published 'Future of Commerce' (1908); 'International Unity' (1910); 'Speeches' (1912), made during his tour of South America.

KNOX, Robert, Scotch writer on Ceylon: b. about 1640; d. 1720. He, together with his father — a commander in the East Indian Company's service — and 14 others were taken into captivity by the Ceylon natives when forced by storms to put into Cottiar Bay in 1657. His father died in captivity but the son escaped, after several unsuccessful attempts, after 19½ years, to Aripo, a Dutch settlement. The East India Company, in 1680, took him into their service and he made a number of other voyages through the Indian seas, becoming a commander. He wrote a number of letters to his cousin, John Strype, now preserved in the University Library, Cambridge, but most interesting reading is furnished by his account of Ceylon, the first ever written. It is entitled 'An Historical Relation of the Island of Ceylon in the West Indies; together with an Account of the Detaining in Captivity the Author and divers other Englishmen now living there, and of the Author's Miraculous Escape' (London 1681); it has been translated into Dutch, French, German, etc.

KNOX, Thomas Wallace, American journalist and traveler: b. Pembroke, N. H., 26 June 1835; d. New York, 6 Jan. 1896. He lost his parents while still a small child and was brought up on a farm, but managed to get enough schooling to become head of an academy at Kingston, N. H., in 1858. He went to

Colorado in 1860 and there engaged in journalism and during the Civil War served as volunteer aide, rising to the rank of lieutenant-colonel. For a time he acted as war correspondent for the New York *Herald*. Some of his war letters were published as 'Camp-fire and Cotton Field' (New York 1865). With T. M. Cooke he wrote 'Horatio Seymour' (New York 1868). He made a journey around the world as a newspaper correspondent in 1866 and again in 1877, and wrote many popular books for young people. From 1865 on he resided, when not traveling, in New York in the literary and artistic life of which he took an active part. He was one of the founder and early officers of the Lotos Club. Among his other very numerous published works are 'Overland through Asia' (New York 1870); 'Underground World' (1873); 'How to Travel' (1880); 'Boy Travelers Series' (15 vols., 1880–94); 'Lives of Blaine and Logan' (1884); 'Decisive Battles since Waterloo' (1887); 'Life and Work of Henry Ward Beecher' (Hartford 1887); 'The Life of Robert Fulton; and a History of Steam Navigation' (New York 1887); 'The Republican Party and its Leaders' (New York 1892); 'The Lost Army' (1894); 'Hunters Three' (1895); 'In Wild Africa' (1895), etc.

KNOX, William, British official and pamphleteer: b. in Ireland, 1732; d. Ealing, near London, 25 Aug. 1810. He was appointed by Lord Halifax "His Majesty's Council and Provost Marshal of Georgia," and sailed with Henry Ellis, who was appointed governor of the colony. They arrived in Savannah in 1757, but, returning in four years, he became agent in Great Britain for Georgia and East Florida. He suggested a colonized aristocracy and representatives in Parliament, then (1765) wrote two pamphlets defending the Stamp Act, and his services were dispensed with. He was Under Secretary of State for America from 1770–82. Lord North (1776) based conciliatory propositions on Knox's views. In 1772 the "reversion of the place of secretary of New York" was granted to him without pay. The province of New Brunswick, Canada, was created in 1784 at his suggestion, lands there being granted to the expelled Loyalists. He wrote numerous pamphlets, most important of which were 'A Letter to a Member of Parliament, wherein the Power of the British Legislature and the case of the Colonists are briefly and impartially considered' (1764); 'The Claim of the Colonies to an Exemption from Internal Taxes imposed by authority of Parliament examined' (1765); these two pamphlets lost him his post. 'A Defense of the Quebec Act' passed through two editions in 1774, its year of issue; 'Considerations on the State of Ireland' was written in 1778; a number of pamphlets were written by him on controversies in the Church.

KNOX COLLEGE, a coeducational institution, founded in 1837 at Galesburg, Ill., as Knox Manual Labor College. The school was opened in 1841 and in 1857 the name was changed to Knox College. The original plan for founding and maintaining the school was to secure subscriptions to the amount of $40,000 and to purchase lands in the Mississippi Valley, at government price, the lands to be resold at a profit. Every subscriber who purchased 80 acres of land was given free tuition for one student for 25 years. In 1917 the productive fund amounted to about $400,000. There are in the library about 13,700 volumes; there were connected with the school 34 instructors and professors and about 600 students. A music department was established in 1883. The famous Lincoln-Douglas debate, in 1858, was held on the grounds of this college. The 40th anniversary of this event was celebrated on 7 Oct. 1898, President McKinley and his Cabinet taking part.

KNOX-LITTLE, William John, English Anglican clergyman and author: b. Stuartstown, County Tyrone, Ireland, 1839. He was educated at Cambridge University, took orders in the Church of England; and after holding several curacies was rector of Saint Alban's, Cheetwood, Manchester, 1875–85. Since 1885 he has been canon residentiary of Worcester Cathedral and vicar of Hoar Cross. He is an "advanced" churchman and has several times visited the United States, where he has preached in many Episcopal churches associated with High Church teaching. He is a popular religious writer and among his many books are 'Meditations on the Three Hours' Agony of Our Blessed Redeemer' (1877); 'The Broken Vow: a Story' (1887); 'The Child of Stafferton' (1888); 'The Perfect Life' (1899); 'Studies in South Africa' (1899); 'Holy Matrimony' (1900); 'Confirmation and Holy Communion' (1901); 'The Conflict of Ideals in the Church of England' (1905).

KNOXVILLE, nŏks'vĭl, Iowa, city and county-seat of Marion County, on the Chicago, Burlington and Quincy and on the Chicago, Rock Island and Pacific railroads, 35 miles southeast of Des Moines. Here is the State Industrial Home for the Blind, courthouse, high school and public library. It is the centre of an extensive coal-mining, stock-raising and agricultural district and has flour-mills, canneries and machine shops. Pop. 3,190.

KNOXVILLE, Tenn., city, county-seat of Knox County, 110 miles northeast of Chattanooga and 160 miles east of Nashville, is located on the main lines of the Southern and the Louisville and Nashville railroads and on the Tennessee River, at the head of steam navigation. It is connected with South Knoxville, on the south side of the river, by an imposing steel bridge. Eleven railway lines radiate in all directions from the two railway systems; and 72 passenger trains go in and out of Knoxville daily.

East Tennessee scenery is noted for its variety and beauty, and Knoxville is its central point. The variety of scenery around Knoxville embraces river, valley, mountain, forest—all within easy reach. Less than an hour's ride are the foothills of the Great Smoky Mountains. In the Appalachian Mountains splendidly equipped hotels and cottages are open to guests. The air, rarefied and made pure by the forests of the mountains and hills of the country around about, is both healthful and invigorating. Numerous watering places, boasting mineral and fresh waters, are within easy reach of Knoxville. In point of climate and scenery, Knoxville is unsurpassed. The

city is laid out with an idea to beauty and the architecture of residences corresponds to the general street plan.

Natural and Economic Resources.— This particular section of East Tennessee has almost inexhaustible quantities of resources of coal, zinc, copper, iron, timber and marble. Knoxville is in the heart of the hardwood section, large quantities of which are shipped throughout the country. The lumber dealers of Knoxville proper do an annual business of approximately $2,500,000. Practically all Tennessee marble is quarried in the Knoxville district. Annual shipments of marble approximate $5,000,000 in value, and even then the ground is scarcely scratched, for the hills surrounding Knoxville are literally filled with marble. It is the leading industry in Knoxville. Tennessee marble is noted for its variety, beauty, strength and durability, and therefore has all of the requisites for satisfactory building material, both exterior and interior. It is pronounced by Dr. Albert Colby, School of Mines, New York, as the purest marble he ever examined. It will stand 20,000 pounds per cubic inch crushing strain. Its absorption is only .007 per cent. Knoxville is within a few miles of the great Tennessee-Kentucky coal area. Some 18,000,000 to 20,000,000 tons of coal are handled through Knoxville jobbers annually, a large proportion of which passes through Knoxville. A zinc producing plant now ships some 1,200 tons of ore per day and additional capacity is in contemplation. Nearly 400 men are now employed at the two shafts now being operated. The copper industry in the Knoxville district ships annually copper to the value of many millions of dollars. There is more undeveloped hydro-electric power within 50 miles of Knoxville than within any other equal area of the United States. It is estimated that the amount of power thus available is upwards of 1,000,000 horse power. The topography of the country in the Knoxville district is particularly adapted to the harnessing of the water in basins formed by the mountains and, as there are many mountain streams well located for the establishment of power plants, the prospective enormous development of hydro-electric power in this section is a natural one. The Ocoee River Power Company supplies Knoxville with its power. The Aluminum Company of America has one of their branch plants within a few miles of Knoxville. The use of electric current as heat gives them the best results in the process of making aluminum pig. The present site of the Aluminum Company's plant in the Knoxville district covers some 600 acres of ground. The plant as at present constructed is only a nucleus for the larger plant which will approximate in size the plants at Niagara Falls, Pittsburgh and Massena. The company now ships from its plant near Knoxville aluminum pig to the value of several millions of dollars annually.

Business Conditions.— The three railroads in Knoxville haul over 1,524,000 tons of freight (in and out) annually. Knoxville has 50 jobbing houses doing a business of $50,000,000 annually, while its manufacturing approximates $30,000,000 annually. The coal handled by Knoxville jobbers runs around $20,000,000 annually. Knoxville's marble brings in $3,000,000 to $4,000,000 annually, while the zinc, aluminum and copper industries in the Knoxville district do a volume of business running well up into the millions. Money for all legitimate business purposes is available at all times in Knoxville.

Financial Strength.— Owing to the geographic location of Knoxville in relation to inexhaustible quantities of economic and natural resources, and of the diversification of interests in the Knoxville district, this city is always the last to feel any sort of business depression. At the beginning of the World War in 1914, Knoxville was the only city in the entire South to show an increase in bank clearings, and one of the five cities in the United States to show an increase in clearings during that period. During the first six months of the war — a period of lowered financial vitality — Knoxville showed decreased bank clearings of less than 5 per cent, as compared with decreases at other important points reaching as high as 35 and 40 per cent. The figures given below show that as a financial centre Knoxville is stronger than ever before in the history of the city. Its rating in bank circles throughout the country is high. There are now 12 financial institutions in Knoxville, of which six are national banks. Both banking capital and deposits have materially increased in the past 10 to 15 years. The banking capital of Knoxville and the surplus and profits are now $4,090,036.13, while the deposits total at this time $19,902,589.13. In 1901, the banking capital and the surplus and profits were only $1,256,205.81, and the deposits $4,152,220.08. In the past 18 years, therefore, the banking capital and surplus and profits have increased over 300 per cent, while the deposits during that time show an increase in almost equal proportion. The combined resources of Knoxville's banking institutions are approximately $24,000,000. Bank clearings in 1901 were $32,496,361.73, while in 1917 they were $125,097,419.84.

Government.— Knoxville has a commission form of government, consisting of a mayor and four commissioners, elected by the people for a term of four years. The assessed value of property for taxation is $45,000,000 which is not exceeding 75 per cent of its actual value. The bonded debt of the city is $3,942,283, most of which was created for constructing sewers, building bridges and other public improvements. The city is supplied with pure wholesome water from the Tennessee River, by a municipality owned plant. The lighting plants, gas and electric, are owned by private corporations. Practically all telephone wires are underground. Everything is sightly. The main business thoroughfare has all the wires — electric light, telegraph and telephone — in underground conduits. There are 28 miles of paved streets in the city. The city fire department is a striking example of efficiency, it being partially motorized. The street cleaning department and police department are motor-equipped. The traction company has 53 miles of track in operation and 136 cars in service. Cheap electric current and gas are available. The city operates a splendidly equipped free public library. A marble post office, with seven sub-stations throughout the city and suburbs, ensures prompt mail service. Youthful violators of the law are tried in a juvenile court. While awaiting trial they are kept in a

detention-house instead of being sent to jail. Charities are looked after by a central organization known as The Associated Charities, which is conducted under the auspices of the city and other dispensers of charities.

Knoxville is headquarters for the Third Regiment of the National Guard of the State of Tennessee. Knoxville's chief benevolent institutions are the Industrial School for Juveniles, sustained at the expense of Knox County, capable of housing and giving instruction to 200 girls and boys; the Home for Aged Women and an orphanage. The Knoxville General Hospital was erected at a cost of more than $50,000, and is one of the leading institutions of its kind in the South.

The City Market.— The city market is unqualifiedly the best in the South, where the housewife can find, at reasonable prices, a wide variety of foodstuffs. A rich agricultural country surrounds Knoxville. Truck farming is practised on a large scale. Supplementing the market, farmers' wagons each morning bring their produce to town. The wagons flank both sides of the market house, and sell direct to the consumer. This makes for cheap living conditions, and, being under the supervision of the city, is excellently managed.

Social Life.— The people of Knoxville are most hospitable. Strangers are made to feel at home in short order. Knoxville is truly a "home city." Knoxville has an efficient Y. M. C. A. and Y. W. C. A. There are several men's clubs of different kinds, including the Cherokee Country Club, University Club, Cumberland Club, Irving Club, Elks' Home, Eagles' Home and a number of others. Among the women's clubs and societies are included the Lyceum and Art Museum, Nicholson Art League, Newman Circle, Ossoli Circle, United Daughters of the Confederacy and Daughters of the American Revolution. There are 35 secret orders in Knoxville and suburbs. There are five posts of the G. A. R. and U. C. V. Camps, one Sons of Veterans and one Society of the Sons of the Revolution. Knoxville has eight hospitals and sanitariums; also two training schools for nurses. There are 106 white and 29 colored churches, with 15 different denominations, in the city and suburbs.

Home and Amusements.— Knoxville has well-constructed and well-kept apartment-houses. Many new dwellings, quite a few being of the bungalow type, are constantly being erected. Rents are reasonable in Knoxville. Convenient car service to all of the outlying suburbs makes living within 15 to 20 minutes' ride from the city both a convenience and a pleasure. All suburbs are growing rapidly. There are several parks in and around the city. The most prominent of these is beautiful Chilhowee Park, the site of the National Conservation Exposition. Two artificial lakes only serve to accentuate the attractiveness of this popular park. What nature has failed to supply to beautify the place, Knoxville's enterprise has abundantly supplied. The city government has well in hand plans for additional parks and playgrounds. Eight theatres and moving picture houses furnish varied entertainments both afternoon and evening. Knoxville has two bands and orchestras.

School System.— There are splendidly equipped city schools, county schools, private schools, parochial schools, the State Deaf and Dumb School and the State University. There are two Catholic and one German-Lutheran parochial schools, three private schools and five high schools. Manual training and domestic science are taught in the several high schools. A part-time school curriculum obtains in the Knoxville High School. Graduates of Knoxville High School are admitted to West Point without test, upon recommendation of the principal or superintendent of the high school. The public school student enrollment is 13,000. The State enforces a compulsory school law. Approximately 80 per cent of the scholastic population can read and write. The Summer School of the South for teachers is also held in Knoxville, under the auspices of the State University. The Summer School has an annual attendance of more than 2,000 teachers from all over the country, and is the oldest Summer School in the South. The University of Tennessee is a coeducational institution. The location of the State Experiment Station here makes it possible to conduct agricultural extension courses on a large scale. The University of Tennessee taught a larger number of individuals during its last session than any other university in the South. The number taught reached nearly 3,500, while the agricultural extension course enrolled 2,400. It is one of the 10 Southern colleges whose bachelor degrees are accepted by the University of Berlin.

History.— Named in honor of General Knox of Revolutionary fame, the first Secretary of War, Knoxville was founded in 1792 by Gen. James White, who had been an officer in the American army in the War for Independence. In the valley of East Tennessee, where Knoxville is located, civilization was first planted west of the Alleghany Mountains. The pioneers faced the red men and an unbroken forest as they pushed forward with axe and rifle to plant the church and the schoolhouse and law and order. The city, therefore, has been for long years the centre of a region of country embracing eastern Kentucky, southwest Virginia, western North Carolina and North Georgia, and the commercial metropolis of this section. Some of its wholesale houses go back to the days when transportation was by wagon and goods delivered over almost impassable roads.

During the Civil War of 1861 to 1865 the city was alternately taken and retaken by the respective armies and suffered greatly. It began to grow actively in 1880, and since that time it has taken its place abreast of other Southern cities that date their growth from about that period. Being an old city it has a population which is essentially conservative, many of whom date their ancestry back to the original founders of more than a century ago. It has always been a university town, the University of Tennessee, located here, having been founded in the year 1807.

Climate and Population.— Knoxville is one of the healthiest cities in the United States. It is 1,000 feet above sea-level. An equable climate causes few extremes in heat or cold. The average mean temperature for a period of 33 years is 57 degrees. The average temperature for the three hottest months of the year June, July and August, is less than 75 degrees, while for the three coldest months, December,

January and February, it is 31.4 degrees. Sudden changes in temperature are comparatively rare. The growth of population is shown in the following census statistics: (1880) 9,693; (1890) 22,535; (1900) 32,637; (1910) 36,346. The city directory (1918) gives Knoxville a population of 96,000, 20 per cent of which is colored.

O. J. STEPHENS,
General Secretary, Knoxville Board of Commerce.

KNOXVILLE, Siege of. On 3 Nov. 1863, before the battle of Chattanooga (q.v.), General Bragg sent General Longstreet to capture or destroy the Union army under General Burnside at Knoxville. The next day Longstreet moved from Tyner's Station with the divisions of McLaws and Hood, two artillery battalions and Wheeler's cavalry, and on 14 November crossed the Tennessee near Loudon. After the engagement at Campbell's Station (q.v.), Burnside resumed his march, reaching Knoxville on the morning of 17 November, Longstreet closely following and laying siege to the town. The town had been thoroughly fortified, the line of defense extending from the Holston River on the left, a double line of works fronting west, a strong work called Fort Sanders on the northwest salient and a line from that point across the railroad and again to the right as far as the river. On the south side of the river were some detached works connected with the town by a pontoon bridge. On the night of 16 November communication with Cumberland Gap was cut and by the night of the 18th the siege was well established. Longstreet believed he could starve out Burnside and compel his surrender but Grant's success at Chattanooga rendered Longstreet's position critical, wherefore he resolved to carry the works by assault. On the night of 28 November he advanced his sharpshooters to within rifle range of the Union defenses and prepared a column to attack Fort Sanders. Early the next morning the assaulting party of three brigades approached unharmed to within 100 yards of the fort. At dawn Longstreet opened a furious artillery fire and a half hour later his columns charged the fort. The Union troops had placed in front of the fort an abatis and entanglements of wire, on reaching which the forward Confederates became confused, but the heavy mass behind them pushed resolutely onward and some gained the ditch and the parapet. The Union guns then opened up with triple charges of canister and the infantry shot down the defenseless Confederates in the ditch, which soon was piled high with dead and wounded. After a long fight Longstreet withdrew with a loss of 1,000 killed, wounded and prisoners, while Burnside lost only 13 killed and wounded. Meanwhile Sherman had been sent from Chattanooga with reinforcements for Burnside and as Sherman's advance prevented his junction with Bragg, Longstreet on the night of 4 December passed around the north side of Knoxville and took up his line of march to Holston, Sherman reaching Knoxville the same day. A force was sent after Longstreet but it proved inadquate to cope with him and accordingly he moved without hindrance to the south side of the Holston where during the winter he continued to harass the Union troops in Tennessee, in the spring joining Lee for the campaign of 1864. Meanwhile at his own request Burnside was relieved from duty and on 11 December the command was formally transferred to Gen. J. G. Foster. Sherman left a part of his troops at Knoxville and returned with the rest to Chattanooga. Consult 'Battles and Leaders of the Civil War' (Vol. III, pp. 731–752, New York 1888); Cist, H. M., 'The Army of the Cumberland' (pp. 256–258, New York 1882); Cox, Jacob D., 'Atlanta' (pp. 9–16, New York 1882); Evans, C. A. (ed.), 'Confederate Military History' (Vol. VI, pp. 264–267; Vol. VII, pp. 174–176; Vol. VIII, pp. 123–124, Atlanta 1899); Nicolay, J. G., and Hay, John, 'Life of Lincoln' (Vol. VIII, pp. 155–188, New York 1886–96); Woodbury, A., 'Burnside and the Ninth Army Corps' (pp. 327–351, Providence 1867).

KNUDSON, nood'sŏn, Albert Cornelius, American theologian: b. Grandmeadow, Minn., 23 Jan. 1873. He was graduated at the University of Minnesota (1893), received the degree S.T.B. at Boston University (1896), studied at the School of All Sciences, Boston (1896–97), and the universities of Jena and Berlin (1897–98). In 1900 he received the degree of Ph.D., Boston University. He was appointed professor of church history at the Denver University (1898–1900), professor of philosophy and the English Bible at Baker University (1900–02), and professor of the English Bible and philosophy at Allegheny College (1902–06), professor of Hebrew and the Old Testament exegesis at Boston School of Theology from 1906. He wrote 'The Old Testament Problem' (1908) and 'The Beacon Lights of Prophecy' (1914).

KNUDTZON, knŭt'sŏn, Jörgen Alexander, Norwegian Semitic scholar and philologist: b. Trondhjem, 9 Sept. 1854. He studied at the Trondhjem Cathedral School, Christiania University, Berlin and Leipzig. He became doctor of philosophy at Christiania (1889) and gave Semitic lectures on the Old Testament (1890–91) at the university. Renouncing theology, he devoted himself to Assyriology. He wrote many articles on philological, especially Semitic and Assyrian, subjects. Among such are 'Zur assyrischen und allgemeinen semitischen Grammatik' (1891–92); 'Assyrische Gebete an den Sonnengott' (1893); 'Die El-Armarna Tafeln' (1899–1901); 'Die Arzawa — Briefe die ältesten Urkunden in indo-germanischen Sprache' (1902).

KNURR-AND-SPELL. See NUR-AND-SPELL.

KNYPHAUSEN, knĭp'how-zĕn, BARON Wilhelm von, German soldier: b. Lützberg, 4 Nov. 1716; d. Cassel, 7 Dec. 1800. Educated at Berlin, he entered the Prussian army in 1734, in which he became in 1775 a general officer under Frederick II (the Great). He came to the United States in that year as second in command of the Hessians in the English service, and superseded General von Heister as commander-in-chief in 1777. He fought at Long Island, White Plains, Brandywine and Monmouth; and during the temporary absence of Clinton in 1780, commanded New York. In 1782 he returned to Germany, where he later

became military governor of Cassel. He was a capable soldier, and had no high opinion of his unreliable mercenaries.

KOALA, a remarkable marsupial (*Phascolarctos cinereus*) of the family *Phalangeridæ*, found chiefly in the interior of New South Wales, and known to the colonists as "native bear." It is about two feet long, and has a heavy, depressed, somewhat bear-like form, no tail, strong limbs with five digits armed with long claws on each, the inner digit on the hind feet and two inner on the fore feet opposable to the others, the ears large and like the rest of the body covered with a dense gray woolly fur. These characteristics fit it for an arboreal existence, and it lives altogether in trees, descending only occasionally to dig for roots. It is especially active at night and feeds on leaves and buds of eucalyptus trees. It is timid and defenseless, and is killed with clubs by the Australian blackfellows, who eat its flesh. (See WOMBAT). Consult authorities cited under MARSUPIALIA.

KOBBÉ, kŏb'bā, **Gustav,** American author and journalist: b. New York, 4 March 1857; d. 1918. He was graduated at Columbia University in 1877, and from its Law School in 1879, and received the degree of M.A. from this institution in 1880; was on the staff of the New York *Sun* in 1881, and correspondent of the New York *World* at the first performance of 'Parsifal' at Bayreuth in 1882. As a journalist he has always specialized in music, drama and art, and since 1905 has been art critic of the New York *Herald*. His Wagner books (1889–90), after going through many editions, were combined in 'Wagner's Music-Dramas Analyzed' (1904). Besides these and many magazine articles in the *Century*, the *North American Review*, the *Forum*, the *Ladies' Home Journal*, the *Delineator*, etc., he has published 'My Rosary and Other Poems' (1896); 'Plays for Amateurs' (1892); 'Miriam,' a story (1898); 'Opera Singers' (1901); 'Signora, a Child of the Opera House,' a novel (1902); 'Famous Actors and Actresses and Their Homes' (1903); 'Loves of the Great Composers' (1905); 'Wagner and His Isolde' (1905); 'Famous American Songs' (1906); 'How to Appreciate Music' (1906); 'The Pianolist' (1907); 'A Tribute to the Dog' (1911); 'Portrait Gallery of Great Composers' (1911); 'Modern Women' (1916). He was editor of the *Lotus Magazine* from 1909 to 1918.

KOBBÉ, William August, American army officer: b. New York, 10 May 1840. He was educated there and in Germany where he studied mining engineering until 1862, when he enlisted in the volunteer service and served until the end of the Civil War, rising to rank of captain, brevet-major and lieutenant-colonel. He was appointed lieutenant in the regular army (infantry) in 1866, serving on frontier in New Mexico and Kansas during Indian hostilities until 1872 when he was transferred to the artillery arm. He was graduated at the artillery school in 1873; was in the Philippine service, 1898–1901, as major of the 3d United States Artillery, colonel of the 35th United States Volunteers, brigadier-general of the United States volunteers and brigadier-general of the United States army. He was in command of joint army and naval expedition to open the Hemp Ports to commerce and was made military governor of Mindanao and Jolo; and commanded the Department of Dakota at Saint Paul from 1902 until retired as major-general in 1904.

KOBÉ, kō bĕ, Japan, a treaty port and former municipality of the main island Hondo, on the west short of the Gulf of Osaka, adjoining on the northeast the prefectural city of Hiogo, with which it was united in 1892. It is the most important of the treaty ports with the largest trade and shipping, a fine harbor, docks, wharves for ocean steamers, ship-building yards, railway shops and other important industrial establishments. Kobé is well laid out with wide streets, electrically lighted. Pop. 442,167.

KOBELL, kō'bĕl, German family of artists, descendants of Johann Heinrich Kobell, who came to Mannheim from Frankfort in 1720. The most noted are Ferdinand, Franz, Hendrik and Wilhelm (q.v.).

KOBELL, Ferdinand, German painter and engraver: b. Mannheim, 7 June 1740; d. Munich, 1 Feb. 1799. He studied first at Heidelberg when the Elector of Bavaria, admiring a landscape, aided him to devote his entire time to painting. He next studied art in Paris and became, on his return, painter to the Cabinet and was appointed director of the Mannheim Gallery (1798) but died before entering on his duties. He specialized on landscapes, following the style of Berchem, and his work shows a jealous study of natural effects. His oil paintings are in a number of German galleries, but his work as an engraver has more importance. His etchings (about 300) were published by Frauenholz, in Munich (1809), as 'Œuvres complètes de F. K.,' another of 179 pages were published by Kugler (Stuttgart 1842). Consult Von Stengel, Baron S., (Nuremberg 1822), for his biography.

KOBELL, Franz, German painter and etcher: b. Mannheim, 23 Nov. 1749; d. Munich, 14 Jan. 1822. The Elector Karl Theodor of Bavaria sent him to Italy (1776) to study art and he remained there till 1785, working from nature and monumental buildings. He next lived at Munich, where he became painter to the court. He produced only a few oil paintings but left 20,000 landscape and architecture pen drawings and etchings.

KOBELL, Hendrik, German painter: b. Rotterdam, 13 Sept. 1751; d. there, 3 Aug. 1799. He painted, in oils and water colors, landscapes and marines. He studied art in his home town, then for some time in England, next in Amsterdam and France, when he settled in Rotterdam. His work is distinguished by skilful manipulation and life-like depiction. He did good work in etching as well as painting.

KOBELL, Jan, Dutch engraver: b. Rotterdam, 1756; d. 1833. His only well-known work was a series of historical portraits (1787).

KOBELL, Jan, Dutch animal painter: b. Delfshagen, 1779; d. Amsterdam, 14 Sept. 1814. He was a pupil of Van der Wall, but studied later under Paul Potter, acquiring his talent for animal as well as landscape work. He is called often "Jan the Elder," in distinction from his uncle Jan Kobell (q.v.).

KOBELL, Wilhelm von, German painter and etcher: b. Mannheim, 6 April 1766; d.

Munich, 15 July 1855. He worked under his father, Ferdinand (q.v.), then studied the works in the galleries of Mannheim and Düsseldorf, especially those of Wouvermann, which he copied. He gained a reputation through clever work on battle scenes and horses, as well as very fine etchings and aquatints, the latter especially. His favorite subjects were landscapes and life studies of the Dutch. His works are displayed in the Pinakothek at Munich and in the galleries of Frankfort, Schliessheim, Darmstadt, Stuttgart, etc. In the banquet hall of the Munich Festsaalhau is his cycle of battle scenes. Consult Kobell, Luise von, 'Unter den vier Königen Bayerns' (Munich 1894).

KÖBERLE, kē'bĕr-lĕ, **Georg,** German author and dramatist: b. Nonnenhorn, on Lake Constance, 21 March 1819; d. Dresden, 7 June 1898. He studied at the Augsburg Gymnasium and then at the Collegium Germanicum, Rome, from which he ran away. He next studied philosophy and law at Munich. He went to Leipzig (1846) where he published 'Aufzeichnungen eines Jesuitenzöglings im deutschen Kolleg in Rom.' His dramatic career commenced with his five-act play 'Die Mediceer' (Mannheim 1849), followed by the tragedy, 'Heinrich IV von Frankreich' (Leipzig 1851). Later came the festival play, 'Des Künstlers Weihe'; 'Zweischen Himmel und Erde'; 'George Washington'; 'Die Heldin von Yorktown,' etc. He was stage-manager at Heidelberg (1853–56). He wrote 'Die Theaterkrisis im neuen deutschen Reich' (Stuttgart 1872), which led to his being appointed director of the Court Theatre at Karlsruhe the same year. He lived at Mannheim in 1873, then went to Vienna and Dresden and wrote since then the following works: 'Meine Erlebnisse als Hoftheaterdirektor' (2d ed., Leipzig 1874); 'Berliner Leimruten und deutsche Gimpel' (ib. 1875); 'Brennende Theaterfragen' (Vienna 1877); 'Das Drangsal der deutschen Schaubühne' (Dresden 1890). He also wrote the novel 'Alles um ein Nichts' (3 vols., Leipzig 1871). The Archduke of Baden allowed him a pension of 5,000 marks annually.

KOBERSTEIN, kō'bĕr-stīn, **Karl,** German dramatist: b. Schulpforta, 15 Feb. 1836; d. Wilmersdorf, 15 Sept. 1899. He was son of Karl August K. (q.v.). He studied at the Stettin Gymnasium, then dedicated his life to the stage (1856). He was a member of the Dresden Court Theatre from 1862 till his retirement (1883). He gained renown through his tragedies 'Florian Geyer' (Dresden 1863) and 'König Erich XIV' (ib. 1869), and the comedy 'Was Gott zuzammenfügt, das soll der Mensch nicht scheiden' (ib. 1872). He published the 'Preussisches Bilderbuck' (Leipzig 1887).

KOBERSTEIN, Karl August, German writer on literature and history: b. Rügenwalde, 10 Jan. 1797; d. Pforta, 8 March 1870. He studied at Stolpe and Potsdam, then (1812) at Berlin. He was appointed professor at the great royal school at Pforta, where he was actively engaged till his death. His literary career commenced with his work entitled 'Ueber das Wahrscheinlicher Alter und die Bedeutung des gedichts vom Wartburgkrieg' (1823). He wrote, notably, 'Grundriss der geschichte der deutschen National-literatur' (1827), which, in its fourth revision (1847–66), became a comprehensive history of German national literature. This work was extended, after his death, in a fifth edition by Bartsch (Leipzig 1872–75). His other works include 'Vermischte Aufsätze zur Literaturgeschichte und Äesthetik' (ib. 1858); 'Heinrich von Kleists Briefe an seine Schwester Ulrike' (Berlin 1860). He contributed to Löbell's 'Entwicklung der deutschen Poesie,' the volume on 'Lessing' (1865).

KOBO, kō-bō, the Cadmus, Philo and Euhemerus of Japan, all in one. The posthumous title of the Buddhist priest Kukai (kookigh), to whom is attributed the invention of the Japanese syllabary *i ro ha,* of 47 letters. He proposed and carried out the scheme, by which Shintoism (q.v.) was occulted and swallowed up in Buddhism. In 804 he went to China to study under the most renowned masters. On his return in 806 he excelled all by his erudition and eloquence, and founded the Shingun, or Sect of the True Word, which makes use of verbal formula to a remarkable extent. According to its tenets, a believer can attain to the state of the Enlightened, or Buddhahood, while in the body of flesh and blood. After a revelation from the gods at Isé, the most sacred of the Shinto shrines, he came forth to baptize all the native gods as avatärs, or manifestations of Buddha, giving them new Buddhistic names, while for every Shinto festival he arranged a corresponding Buddhist saint's or gala day. He thus provided both for the scholars and the common people. He sent forth his pupils to preach the new theology, which soon captured the whole nation, thus establishing for a thousand years Ryobu, or mixed Shinto. In 816 he built on Mount Koya one of the most splendid temples in the empire. In 921 Kukai was canonized by the emperor, under the name of Kobo Daishi (the Great Teacher, who promulgates the law). The popular legends concerning Kobo's amazing powers of learning, writing, literary accomplishments and painting from the favorite subjects of the art of Hokusai (q.v.) and other artists. Consult Reischauer, 'Studies in Japanese Buddhism' (1918), and Griffis, 'The Religions of Japan' (1895).

KOBOLD, kō'bōlt', **Hermann Albert,** German astronomer: b. Hanover, 5 Oct. 1858. He studied at a private school and the Royal Gymnasium, Hanover, and at Göttingen University. He was attached to the O'Gyalla Observatory in Hungary (1880–83), was astronomer on the German Venus Expedition to Aiken, S. C., and was appointed (1883–86) to the commission of observation of the transit of Venus. He was attached to the Strassburg Observatory (1886–1902) and at Kiel Observatory (1902). In 1908 he became editor of the *Astronomische Nachrichten.* He wrote 'Bau des Fixsternsystems, mit besondere Rüchsicht der photometrische Resultate' in *Die Wissenschaft* (1906).

KOBOLD, a species of elf in the popular superstition of Germany, corresponding to the English *goblin.* The kobold is connected with a house or a family, and appears in bodily shape.

KOCH, kŏk, **Christian Friedrich,** German jurist: b. Mohrin, 9 Feb. 1798; d. Neisse, Silesia, 21 Jan. 1872. He studied under Savigny until 1825 and wrote 'Versuch einer systematischen Darstellung der Lehre vom Besitz nach preussischem Recht' (Berlin 1826). This brought him immediate recognition and led to his numerous appointments. He studied French law in Cologne and Aix-la-Chapelle and was appointed justice of the Supreme Court at Marienwerder (1829). He was appointed director of the law courts, successively, at Kulm (1832); Grossglogau (1834); Halle (1840). He received the appointment of director of the Court of Justice of the principality at Neisse, where he worked zealously till his death. He reconstructed the entire Prussian jurisprudence. He wrote 'Das Recht der Forderungen nach gemeinem und preussischem Recht' (Breslau 1836–43; Berlin 1858–59); 'Lehrbuch des preussischen Privatrechts' (Berlin 1845; 2d ed., 1857–58); 'Das preussische Erbrecht aus dem gemeinen deutschen Recht entwickelt' (Berlin 1866); 'Das preussische Zivilprozessrecht' (ib. 1847; 6th ed., 1871). Another important work of his was 'Kommentar zum Allgemeinen Landrecht' (Berlin 1852–55; 8th ed., 1883–87). He was founder of the *Schlesisches Archiv für die praktische Rechtswissenschaft* (Berlin 1837–46). Consult Behrend, J. F., 'Christian Friedrich Koch' (Berlin 1872).

KOCH, Joseph Anton, Austrian landscape painter and etcher: b. Obergiebeln, Tyrol, 27 July 1768; d. Rome, 12 Jan. 1839. He started life tending cattle; was given instruction at the Stuttgart Karlschule through the recommendation of Bishop Umgelder (1785). He ran away from the strict discipline (1791) and reached Strassburg and, later, Rome (1795), where he became acquainted with and a follower of the classic tendency of Carstens. He adopted the style of Poussin and Claude Lorraine in landscape work. In his early days at Rome he etched the pages of Carstens 'Les Argonautes, selon Pindar, Orphée et Apollonius de Rhode' (Rome 1799). He also etched 20 Italian landscapes and a large sheet representing "the Oath of the French at Millesimo"; 14 pages after Dante, adding later another 30 (published Vicenza 1904), and 36 after Ossian. He contributed American landscape scenes to the works of von Humboldt (1805). At the Pinakothek, Munich, are his 'Sacrifice of Noah' and landscapes. He was forced, through inadequate income from his work, to go to Vienna, where he worked prolifically (1812–15). He returned to Rome, where he painted, among other works, the four frescoes in the Dante Room of the Villa Massimi (1824–29). His presence and personality had considerable influence among the younger generation in the art life of Rome. His work, directed humorously against unjustifiable criticism and false connoisseurship, was entitled 'Moderne Kunstchronik oder die Rumfordische Suppege kocht und geschrieben von J. A. K.' (Stuttgart 1834). His last years were spent in great poverty. Consult Frimmel, 'Joseph Anton Koch' (in Dohme's 'Kunst und Künstler des 19ten Jahrhunderts,' Leipzig 1884).

KOCH, Karl, German botanist: b. Ettersberg, near Weimar, 6 June 1809; d. Berlin, 25 May 1879. He studied in Jena and Wurzburg and taught, as privatdocent, in Jena (1834). He undertook a journey of research into Russia (1836–38) and a second (1843–44), then settled in Berlin (1847), being later appointed assistant professor, also general secretary, of the *Verein zur Beförderung des Gartenbau* of the state of Prussia, in which position he published *Wachenschrift für Gärtnerei und Pflanzenkunde* (1858–72). He was appointed professor of the Agricultural High School in Berlin (1859). He wrote 'Reise durch Russland nach dem kaukasischen Isthmus' (Stuttgart 1842–43); 'Wanderungen im Orient' (Weimar 1846–47); 'Hartus dendrologicus' (Berlin 1853–54); 'Dendrologie' (Erlangen 1869–72), etc.

KOCH, Max, German historian and critic: b. Munich, 22 Dec. 1855. He studied in Munich and Berlin, and taught (as *docent*) at Marburg (1880). He was appointed assistant professor and later professor at Breslau. He wrote 'Helferich Peter Sturz und die Schleswigschen Literaturbriefe' (Munich 1879); 'Ueber die Beziehungen der englischen Literatur zur deutschen im 18 Jahrhundert' (Leipzig 1883); 'Shakespeare' (Stuttgart 1885); 'Geschichte der deutschen Literatur von den ältesten Zeiten bis zur Gegenwart' (Leipzig; 2d ed., 1904). He compiled for Goedeke's 'Grundriss' the Goethe and Schiller literature, later to be followed by his compilations on 'Shakespeare' and 'Chamisso' for the Cotta's 'Bibliothek der Weltliteratur,' and on: Von Arnim, Brentano, Eichendorff, Fouqué, Hoffmann, Schulze, Immermann and Lenau for Kürchener's 'Deutsche National Literatur,' etc. He founded *Zeitschrift für vergleichende Literaturgeschichte* (Berlin 1886, later Weimar).

KOCH, Robert, German bacteriologist: b. Klausthal, Hanover, 11 Dec. 1843; d. 28 May 1910. He received a medical education at Göttingen (1862–66), was assistant surgeon in the Hamburg general hospital, was in private practice at Langenhagen, Rakwitz and Wollstein, and in 1872 was appointed to the Imperial board of health. In 1882 he succeeded in isolating the tubercle bacillus, in 1883 was made privy councillor and became director of the cholera commission to India and Egypt. He discovered in 1884 the cholera spirillum, or comma bacillus, regarded as a positive test of the presence of Asiatic cholera. For this service he received by legislative act a gift of 100,000 marks ($25,000). In 1885 he was appointed professor in the University of Berlin, director of the newly established Hygienic Institute of Berlin, and also director of the Prussian board of health. One of his pupils prematurely announced in 1890 the discovery of a substance called tuberculin, which, he asserted, would cause to cease the growth of the tubercle bacillus. Subsequent experiment failed in the judgment of scientists to confirm this claim. In 1905 he was awarded the Nobel prize in medicine. In 1906 the German government sent Koch to investigate the "sleeping sickness" in West Africa. He had previously studied blood infections in East Africa in 1903, had found the spirochetæ of African relapsing fever in the ticks through whose bites it is transmitted. In the tick he found also the piroplasma which causes "Texas fever," and proved that the tsetse

fly transmits the trypanosomata at the moment of biting. Among his writings are 'Untersuchungen über die Aetiologie der Wundinfektionskrankheiten' (1878; Eng. trans., 1880); 'Ueber die Milzbrandimpfung: Eine Entgegnung auf den von Pasteur in Genf gehaltenen Vortrag' (1882); 'Beitrag zur Aetiologie der Tuberculose' (1882; 1886); 'Ueber die Choierabakterien' (1884; 1886); 'Ueber Naturheilung und medizinische Kunst' (1885); 'On Disinfection' (1886); 'Ueber bakteriologische Forschung' (1890); 'Ergebnisse der vom deutschen Reich ausgesandten Malaria-Expeditionen' (1900); 'Aerztliche Beobachtungen in den Tropen' (1898); 'Diagnosis, Treatment and Prophylaxis of Tropical Malaria' (1898). Consult Biggs, H. M., 'Robert Koch and his Work' (in American *Review of Reviews*, Vol. XXIV, New York 1901); Fischer, Bernhard 'Robert Koch' (in *Deutsche Rundschau*, Vol. XXXVII, Berlin 1910); Wyeth, J. A., 'Memorial Address' (New York 1911).

KOCHANOWSKI, kō'ka-nôf'skē, **Jan,** Polish poet: b. Sycyna, 1530; d. Lublin, 22 Aug. 1584. He was educated at the High School, Cracow; studied at Padua (1552), and traveled in Italy. He then went to Paris (1555) and was inspired by Ronsard to write poetry. Returning to his native country he was appointed secretary to King Sigismund Augustu. He was granted two benefices (1565 and 1566), but returned to live on his family estate, Czarnlyas (1568), where he devoted his time to the Muses. In 1575 he resigned from the duties of his religious offices and was invited to reside at the court by the newly-crowned king, Stephan Báthory, but refused the honor, as also the office of Kastellan, tendered him by Chancellor Zamojski. Next to Mickiewicz, he was the most important poet of Poland. His 'Treny' (Cracow 1580), elegies on the death of his daughter Ursula, are considered masterpieces as to poetic flight and mastery of language. His drama 'Odprawa poslow grekich' ('The Despatching of the Greek Ambassadors') was written (1578) in honor of the marriage of Zamojski to Princess Báthory. Other well-known poems of his are 'Proporzec albo hold pruski' ('The Banner or Homage to Prussia'); the satiric poem 'Z goda' ('Unity') appeared in 1564; 'Fraszki' ('Fragments') was published in 1584 and is in the gayest strain, reminding of the 'Decameron.' His translations of the 'Psalms' is considered to be the best in existence. He wrote also, in Latin, such works as 'Lyricorum libellus' (1580); 'Elegiarum libri quatuor' (1584), and numerous poems composed for special occasions. The perfection of the Polish language is due to him; he greatly enriched Polish poetry by naturalizing foreign poetic forms which he understood how to imbue with national spirit. Collections of his works appeared from 1584 to 1641, but the last and best (Warsaw 1884) is in four volumes. Consult Przyborowski, 'Biography of Kochanowski' (Posen 1857), also Löwenfelt, 'Jan Kochanowski und seine lateinischen Dichtungen' (Posen 1878).

KOCHER, kög'ĕr, **Emil Theodor,** Swiss surgeon: b. Berne, 1841; d. there, 1 Aug. 1917. He studied medicine in his native city and surgery in Berlin, London and Paris. He returned to his native place and in 1866 began his long connection with the university there. In 1872 he became full professor and director of the surgical clinic there. He was the first surgeon to operate successfully for goitre. His treatment consisted in withdrawing from functional activity part of the thyroid gland in the neck. This was accomplished by removing the lobes of the gland or by tying off its blood supply. His later work included study of the blood in exophthalmic goitre study of cancer of the thyroid, curability of cancer of the stomach and the prevention of cretinism. He was awarded the Nobel prize for medicine in 1909. His works include 'Die antiseptische Wundbehandlung' (1881); 'Vorlesungen über chirurgische Infektionskrankheiten' (1895); 'Chirurgische Operationslehre' (1894); Eng. trans. as 'Textbook of Operative Surgery' (2 vols., 1911). The last work is esteemed as a classic in its field.

KOCK, kŏk, **Charles Paul de,** French novelist: b. Passy, France, 21 May 1794; d. Paris, 29 Aug. 1871. He was the son of a Dutch banker who was guillotined in 1794. At 15 he was placed in a banking-house, but presently took to writing, and his reputation was soon established by such works as 'Georgette' (1820); 'Gustave, ou le mauvais Sujet' (1821); 'Mon Voisin Raymond' (1822). The last is regarded as the typical romance of its kind. His scenes are cast in the lower ranks of middle-class life. His narrative is a constant succession of stirring incidents without catastrophe. The incidents are always gay and lively, frequently somewhat gross, but scarcely to the extent of indecency. The worst feature of Paul de Kock's works is his style, which is barely presentable, a fault evidently due to deficiency of education. This accounts for his popularity being greater abroad than at home, as the defects of style disappear in translation. Besides his novels, which are very numerous, he wrote several dramas, chiefly taken from them. Two complete English translations of his works have appeared in 1902 and 1903–04, respectively. Consult Trimm, 'La Vie de Charles Paul de Kock' (1873).

KÖCKLY, kŏck'lĭ, **Hermann,** German philologist: b. Leipzig, 5 Aug. 1815; d. Trieste, 3 Dec. 1876. He studied at Leipzig, taught at the Saalfeld Progymnasium (1837) and at the Dresden Kreuzschule (1840). He fled to Brussels (1849) on account of his participation in the May insurrection, and was appointed professor of classical philology at Zürich (1851), and at Heidelberg (1864). He was a member of the Reichstag (1871–73) where he attached himself to the Progressive party. He wrote useful works on the Grecian epics and ancient military writers. To the first belong critical essays on Quintus Smyrnæus (Leipzig 1850); 'Hesiod,' in collaboration with Kinkel (1870); and an edition of 'Aratus, Manethonis, Maximi et aliorum astrologica' (Paris 1851); an edition of the text of 'Apostelesmata' (Leipzig 1858); 'Dionysiaca of Nonnos' (ib. 1858), also seven dissertations on 'De Iliadis carminibus' (Zürich 1850–59); 'De diversis Hesiodeæ Theogoniæ partibus' (Zürich 1860); three dissertations on 'De Odysseæ carminibus' (ib. 1862–63); 'Opuscula epica IV' (ib. 1864). On ancient military subjects were 'Geschichte des Griechischen Kriegswissens' (Aarau 1852);

'Grieschische Kriegsschriftstelles' (Leipzig 1853–55); 'Einleitung in Cäsars Kommentarien über den gallischen Krieg' (Gotha 1857); 'Onosandri de imperatoris officio Liber' (Leipzig 1860). Others of his works are editions of Arrian's 'Anabasis' (1861); 'Euripides' and 'Iphigenia in Taurien' (1863); 'Medea' (1867), and capital translations, especially of Cæsar, Æschylus, etc. A collection of his smaller works is found in his 'Opuscula academica' (Leipzig 1853–56); 'Akademische Vorträge und Reden' (Zürich 1856); 'Opuscula philologica' (Leipzig 1881–82). Consult Hug, 'Hermann Köckly' (Basle 1878); Böckel, 'Hermann Köckly, ein Bild seines Lebens und seiner Persönlichkeit' (Heidelberg 1904).

KODAK. The Kodak camera is the invention of George Eastman, and the first model appeared in the year 1888. It is now manufactured in a number of sizes and styles, some making use of both cartridge roll film and dry plates. The original Kodak camera took round pictures 2½ inches in diameter, was of the fixed focus type and carried a roll of film sufficient for 100 exposures. Its invention practically marked the advent of amateur photography, as before that time both apparatus and processes were too burdensome to permit of classification in the field of recreation. The roll film used in the first model of the Kodak camera had a paper base but was soon superseded by a film with a cellulose base, a practical, transparent, flexible film. The first films had to be loaded into the camera and unloaded in the dark room, but the film cartridge system with its protecting strip of non-actinic paper made it possible to load and unload the camera in ordinary light. The Kodak Developing Machine and its simplified successor, the Kodak Film Tank, provided the means for daylight development of film, so that now the dark room is not necessary for any of the operations of amateur photography. The earlier types of the Kodak cameras were of the box form and of fixed focus, and as various sizes were added, devices for focusing the lenses were incorporated. The first folding Kodak cameras were introduced early in the nineties; these were equipped with folding bellows which permitted much greater compactness. The first pocket Kodak camera was introduced in 1895. It was of the box form type, slipping easily into an ordinary coat pocket, and producing negatives 1½ x 2 inches. The first folding pocket Kodak camera was introduced in 1897, and at the present time all the Kodak cameras are of the folding type, except one especially designed for taking panoramic pictures, which is of the box type. A recent invention, the Autographic Feature, provides a means for recording data on the margin of the negative itself at the time of exposure. This feature is now supplied on all Kodak cameras with the exception of the one for making panoramic pictures. The Kodak system of photography for the amateur had been so perfected that to-day the amateur has a wide range in optical equipment, and every essential for the producing of a finished photograph may readily be carried in any ordinary Gladstone bag with room to spare.

KODAMA, kō'da-ma, **Gentaro,** Viscount, Japanese general: b. Tokuyama, 5 Feb. 1852; d. Tokio, 23 July 1906. He was early drawn into the conspiracy that destroyed the shogunate. He fought to restore the power of the Mikado in the north island, and took part in the suppression of the insurrection in Saga (1874), also in an expedition to the Riukiu Islands (1876). In 1891 he undertook a journey to study European conditions and was appointed, on his return, Assistant Minister of War (1892). He was chief of staff at Hiroshimo headquarters during the Chino-Japanese War (1894–95). In 1897 he was made a noble and appointed governor of Formosa, and entered Prince Ito's cabinet (1900) as Minister of War. Under his direction the masterly Japanese victory over the Russians (1904–05) was carried out by the generals Kuroki, Oku, Nodzu and Nogi, with Okuma, as chief, following his plans. He was created viscount, and shortly before his death he was made chief of the general staff.

KODIAK, kōd-yak', a large Alaskan island lying to the south of Cook Inlet. It is comparatively sparsely populated, its largest town, Karluk, having only about 500 inhabitants. The population of the island is principally engaged in fishing, Kodiak being the greatest home of the salmon in Alaska. The fur industry is also carried on to some extent and the Kodiak great bear is valued for its hide. Cattle-raising and agriculture are growing industries, thanks to the constant efforts of the United States Department of Agriculture to make these a prominent part of the activities of the islanders, who have also been provided with an efficient system of public education. Owing to its comparatively mild and equable climate the future of Kodiak seems assured in the field of agriculture which is favored by an average annual rainfall of over 60 inches. Churches are found all over the island which has an area of 36,000 square miles. See Katmai.

KOEHLER, kē'lėr, **Robert,** American artist: b. Hamburg, Germany, 28 Nov. 1850. He came with his parents to the United States in 1854; was educated at Milwaukee, Wis., and learned lithography which he practised in Pittsburgh, Pa., and New York. After studying drawing in the night classes of the National Academy of Design, he went to Munich where he learned painting under Loefftz and Defregger and chose genre and portraiture as his special field of activity. In 1893 he was appointed director of the Minneapolis School of Art, and director emeritus since 1914; president of the Minnesota State Art Commission from 1903 to 1910; member of the Artists' League of Minneapolis; honorary member of the Minnesota State Art Society; honorary member of the Alumni Association of the Minneapolis School of Art; member of the Society of Western Artists; member of Institute des Beaux Arts et des Lettres of Paris, France. Author and lecturer on art subjects. Organized the American Department at the International Art Exhibitions at Munich in 1883 and 1888. Received bronze and silver medals at the Munich Academy, honorable mention at the Paris World's Fair, 1889, bronze medal at the International Art Exhibition at Buenos Aires in 1910, cross of the Order of Saint Michael of Bavaria in 1888. Represented by paintings in the Pennsylvania Academy of the Fine Arts

('A Holiday Occupation'), the Public Library Gallery at Minneapolis ('The Strike'), Minneapolis Institute of Arts ('Study Head'), Minneapolis Athletic Club ('Violet'), State University of Minnesota ('Portrait of Dean Wulling'), Public Library at Alexandria, Minn. ('Portrait'), Memorial Library at Blue Earth, Minn. ('Portrait'); other paintings, 'The Carpenter's Family,' 'Her Only Support,' 'The Socialist,' 'The Family Bible,' 'Salve Luna.'

KOEL, one of a group of East Indian and Australian fruit-eating cuckoos, of the genus *Eudynamis,* which are popularly known as "rain-birds." They are parasitic, but have many peculiarities, among which are the glossy black plumage of the males, and the fact that, contrary to the rule, the immature young resemble the males instead of the females, which have a reddish dress. A Philippines' species (*E. mindanensis*) is locally called "phow." They utter loud whistling cries.

KOENIGSBERGER, kē'niks-bĕr'gẽr, **Leo,** German mathematician: b. Posen, 15 Oct. 1837. He was educated at Posen and Berlin, and taught mathematics and physics at Berlin (1860–64). He was appointed assistant professor at Greifswald (1864–66) and professor (1866–69), and successively at Heidelberg (1869–75), Dresden (1875–77) and Vienna (1877–84), after which he was active at Heidelberg. He wrote the biographies of Hermann von Helmholtz and C. G. J. Jacobi, besides many articles contributed to mathematical periodicals.

KOESTER, kē'stẽr, **Frank,** German-American engineer and author: b. Sterkrade, Germany, 28 Aug. 1876. After 10 years of theoretical training and practical engineering and municipal experience in Germany, including four years of shop and field practice, he came to the United States in 1902. He was connected with the construction of the New York subway system and other large engineering undertakings in the United States, South America, Alaska and the Philippines. A considerable part of his practice has been devoted to the design, construction and operation of electric generating stations. Recognizing the great field in modern city planning he made a special study of modern methods in this field, taking up the city planning courses at Charlottenburg College, Germany. He was a delegate to the City Planning Congress at Düsseldorf, Germany, in 1912, and to the International Congress of City Planning and City Maintenance held at Ghent, Belgium, in 1913, in both of which he made addresses. He has published 'Steam Electric Power Plants' (New York and London 1908); 'Hydro-electric Developments and Engineering' (ib. 1909); 'The Price of Inefficiency' (New York 1913); 'Electricity for the Farm and Home' (ib. 1913); 'Modern City Planning and Maintenance' (New York and London 1914); 'Secrets of German Progress' (New York 1915).

KOETSVELD, koots'vĕlt, **Cornelis Eliza van,** Dutch theologian and novelist: b. Rotterdam, 24 May 1807; d. The Hague, 4 Nov. 1893. He studied at Leyden, and was pastor at Westmaas, Berkel and Schoonhoven. He went to The Hague (1849) and was appointed preacher to the court (1878). He wrote numerous religious works, but is better known through his 'Schetsen uit de Pastorij te Mastland' (Schoonhoven 1843; 13th ed., 1902), which is humorous, true to nature and has been translated into English and German. His novels, sketches, etc., have been collected and published in 10 volumes (Arnheim 1897–98). Consult Brink, Jan Ten (in *Geschiednis der noord nederlandsche Letteren in de 19e Eeuw,* Rotterdam 1904), and in *Levensberichten van de Maatschappij der Nederlandsche Letteren* (1893–94).

KOFOID, kō'foid, **Charles Atwood,** American zoologist: b. Granville, Ill., 11 Oct. 1865. He was graduated at Oberlin College (1890), took the A.M. degree at Harvard University (1892) and Ph.D. (1894). He was appointed teacher at the Oberlin Academy (1888–90), teaching Fellow (1890–91) and instructor of vertebrate morphology at the University of Michigan (1894–95). From 1895–1900 he was superintendent at the biological station of the University of Illinois at Havana, Ill., and assistant professor of zoology at the Illinois University (1897–1900). He was appointed to various positions at the University of California, being acting head of the department of zoology 1905–06, and professor of zoology and head of the department from 1910. In 1905–06 he was acting director of the San Diego Biological Station. He was associate naturalist of the Agassiz expedition to the eastern tropical Pacific on the United States steamer *Albatross* (1904–05), and assistant director at Scripps Institute of Biological Research from 1912. He invented several plankton nets, a deep-sea water sampler, etc., and received the Saint Louis Exposition gold medal (1904). Many valuable contributions from his pen have been published in the numerous scientific periodicals of both America and Europe. He was associate editor of the *American Naturalist* from 1897–1908; zoological editor of the *Journal of Applied Microscopy* from 1900–04, etc.

KOFU, kō'foo, Japan, the capital city of Kai province, on the island Nippon, north of Fujiyama. It has an old castle, teachers' seminary and large silk mills, and does considerable trade in silk, rock-crystal, fruit, wine and resin. The district is very fertile and produces a grade of grapes which make a fine wine. The population has grown very rapidly, being 37,561 in 1898 and over 50,000 in 1918.

KÖGEL, ke'gĕl, **Rudolf,** German theologian and court preacher: b. Birnbaum, province of Posen, 18 Feb. 1829; d. Berlin, 2 July 1896. He studied theology and philosophy at Halle and Berlin (1847–52); was appointed teacher of religion at the Bitzthumschen Gymnasium, Dresden (1852–54), then pastor in Nakel (1854–57), and was preacher of the German-Evangelical community at The Hague (1857–63). He was appointed simultaneously to the positions of court preacher and member of the Consistorium of the Margrave Brandenburg and counsellor to the Minister of Public Worship. In 1880 he was appointed chief preacher of the court and was chosen member of the Privy Council (1884). He used his influence at court against the free-thought church policy of Falk and Hermann with success. His sickness (1892–94) enforced retirement from his official functions. A collection

of his sermons was published under the title 'Wach auf, du Stadt Jerusalem' (Bremen 1882), and 'Die Seligpreisungen der Bergpredigt' (4th ed., 1895). Other prominent works are 'Der erste Brief Petri' (ib., 3d ed., 1890); 'Der Brief Pauli an die Römer' (ib., 4th ed., 1904); 'Vaterländische und kirchliche gedenktage' (ib. 1887). He published, in collaboration with W. Baur and C. Frommel, the yearbook 'Neue Christoterpe' from the year 1880. Consult his son's biography, 'Rudolf Kögel, sein Werden und Wirken' (Berlin 1899–1903).

KOGIA, kō'jĭ-ą, the generic and ordinary name of the "pigmy" sperm whales of the Pacific, which differ from the true sperm whales (q.v.) in anatomical particulars, and conspicuously in size, not exceeding about 15 feet in length. There are several species of these cetaceans which belong mainly to the New Zealand region, although one species visits the coast of California, but they are little known.

KOH-I-NUR, kō'ē-noor', or KOHINOOR. See DIAMOND.

KOHL, kōl, Johann Georg, German traveler and historian: b. Bremen, 28 April 1808; d. there, 28 Oct. 1878. Nearly his entire life was devoted to travel and historical investigation in Europe and in North America, where he spent four years and published as the fruits of researches 'Travels in Canada' (1855); 'Travels in the Northwestern Parts of the United States' (1857); 'History of the Discovery of America' (1861); and several essays on American cartography. Other works are 'Travels in the Interior of Russia and Poland' (1841); 'The British Isles and Their Inhabitants' (1844); 'The Rhine' (1851); 'The Danube' (1853).

KOHL-RABI, kōl-rā'bĭ, a botanical variety of the same species as cabbage (q.v.), from which it differs in the swelled, turnip-like stem with a tuft of loose leaves on the top. This bulbous stem, which may be six inches in diameter, is used for human and stock food, less in America than in Europe. Its quality and texture are less agreeable, except in very young plants, than are those of turnips and cabbage.

KOHLER, kō'lėr, **Josef,** German jurist, author and poet: b. Offenburg, 9 March 1849. He studied at Offenburg and Rastatt gymnasiums and Freiburg and Heidelberg universities. He became doctor of laws (1873) and was appointed judge at Mannheim (1874). He obtained the degree of professor at Würzburg (1878) and Berlin (1888). Through his many contributions to the *Zeitschrift für vergleichende Rechtswissenschaft* and other law journals he aided much in advancing the comparative history of law. He wrote on this subject such important works as 'Moderne Rechtsfragen bei islamitischen Juristen' (Würzburg 1885); 'Das chinesische Strafrecht' (ib. 1886); 'Rechtsvergleichende Studien über islamitisches Recht, das Recht der Berbern, das chinesische Recht und das Recht auf Ceylon' (Berlin 1889); 'Altdeutsches Prozessrecht' (Stuttgart 1891). On civil law he wrote 'Einführung in die Rechtswissenschaft' (Leipzig 1902); 'Beiträge zur germanischen Privatrechtsgeschichte' (Würzburg 1883–88); 'Deutsches Patentrecht' (Mannheim 1878); 'Handbuch des deutsches Patentrechts' (ib. 1900–01); 'Forschungen aus dem Patentrecht' (ib. 1888); 'Das Autorrecht' (Jena 1880); 'Aus dem Patent- und Industrierecht' (Mannheim 1888); 'Das literarische und artistische Kunstwerk und sein Autorschutz' (Mannheim 1892); 'Das Recht des Markenschutzes' (Würzburg 1885); 'Kunstwerkrecht' (1908). He treated the philosophical side of law in such works as 'Shakespeare vor dem Forum der Jurisprudenz' (Würzburg 1883); 'Das Recht als Kulturer scheinung' (ib. 1885); 'Das Wesen der Strafe' (ib. 1888). On the subject of the history of art he wrote 'Aus dem Lande der Kunst' (Würzburg 1882); 'Aesthetische Streifereien' (Mannheim 1889); 'Zur Charakteristik Richard Wagners' (ib. 1893). As poet he wrote 'Lyrische Gedichte und Balladen' (Berlin 1892); 'Feuermythus oder Apotheose des Menschengeistes; nach Motiven der polynesischen Sage' (ib. 1893); 'Der Liebestod: nach motiven der mexikanischen Ueberlieferung' (ib. 1893); 'Neue Dichtungen' (ib. 1895) 'Dantes Heilige Reise' (Cologne 1901–03); 'Aus Petrarcas Sonettenschatz' (Berlin 1902–03). He, together with Viktor Ring, founded and published *Archiv für bürgerliches Recht und Berliner juristischen Beiträge.*

KOHLER, Kaufmann, American rabbi: b. Fürth, Bavaria, 10 May 1843. After completing his studies at the universities of Munich, Berlin and Leipzig, he was chosen as rabbi in Detroit in 1869, and two years later elected rabbi of Temple Sinai, Chicago, where he introduced Sunday lectures, a novelty in those days. In 1879 he was called to Temple Beth El, New York. At his initiative in 1885 a rabbinical conference was held at Pittsburgh, Pa., which formulated a platform for Reformed Judaism. In later years he frankly receded from the radical standpoint and assumed a more conservative position. In 1903 he was elected president of the Hebrew Union College. He has been a frequent contributor to the Jewish press, edited the *Sabbath Visitor* (1881–82), the *Jewish Reformer* (1886), was one of the editors of the 'Jewish Encyclopædia,' and in addition to various volumes and critical papers has written 'Der Segen Jakobs' (1868); 'Guide to Instructions in Judaism' (1900); 'On Capital Punishment' (1869); 'On Song of Songs' (1877); 'Ethical Basis of Judaism' (1877); 'Backwards or Forwards — Lectures on Reform Judaism' (1885); 'Church and Synagogue in their Mutual Relations' (1889); 'Systematische Theologie des Judenthums auf geschichtlicher Grundlage' (1909); 'Well of Living Waters' (1916).

KÖHLER, Ulrich, German archæologist: b. Klein-Neuhausen, grand duchy of Weimar, 6 Nov. 1838; d. Berlin, 24 Oct. 1903. He studied at Jena and was appointed secretary of the Prussian embassy at Athens (1865) and later was made professor of archæology at Strassburg. He was governor of the newly-founded Archæological Institute at Athens (1875) and was appointed professor of ancient history at Berlin (1886). His principal work is the second volume of 'Corpus inscriptionum atticarum' (Berlin 1877–95), which contains the inscriptions from the time of the Archon

Euclides to Augustus. Important also is his 'Urkunden und Untersuchungen zur Geschichte des delisch-attischen Bundes' (Berlin 1870).

KÖHLER, Walther Erich, German church historian: b. Elberfeld, 27 Dec. 1870. He studied at Halle, Heidelberg, Strassburg, Bonn and Tübingen. He became private teacher (*docent*) of church history at Giessen (1900), and associate professor (1904) and was appointed professor of church history at Zürich (1909). He belongs to the critical school of theology. Among his works are 'Die katholischen Kirchen des Morgenlandes' (Darmstadt 1896); 'Luther und die Kirchengeschichte' (Erlangen 1900); 'Reformation und Ketzerprozess' (Tübingen 1901); 'Dokumente zum Ablasstreit von 1517' (1902); 'Die Entstehung des Problems Staat und Kirche' (1903); 'Ein Wort zu Denifles Luther' (1904); 'Die Anfänge des Pietismus in Giessen 1689–95' (Giessen 1907); 'Kritische Ausgabe von Luthers fünfhundneunzig Thesen mit Gegenschriften' (Leipzig 1903); 'Der Gnostizismus' (1911); 'Ausgewählte Schriften des Erasmus von Rotterdam' (1914).

KOHLRAUSCH, kōl'roush, **Friedrich,** German physicist: b. Rinteln, 14 Oct. 1840; d. Marburg, 1910. He studied at Erlangen and Göttingen, and was teacher (*docent*) at the Frankfort Physikalischer Verein (1864). He became assistant professor (1870) and was appointed professor, successively, of the Polytechnikum, Zürich (1870); Darmstädter Polytechnikum (1871), and at Wurzburg (1875) and Strassburg (1888). He was appointed president of the Physikalischtechnischen Anstalt (Imperial Physico-technical Institute) of Berlin (1895), and honorary professor of the Berlin University (1899). In 1905 he retired to reside at Marburg. His work was chiefly in the realm of electric currents, resistance, the constitution of galvanic currents, the defining of the Ohm and electro-chemical equivalents, thermo-electricity and conductivity of heat, total reflection of light, elasticity of matter, and especially reaction of elasticity. He constructed numerous magnetic and electric measuring instruments, a bifilar-magnetometer, an intensity-variation meter, a voltmeter, a switch-rheostat, etc. His exposition of the most important methods of measurements in physics is expounded in his 'Leitfaden der praktischen Physik' (Leipzig 1870; 10th ed., 1905), and 'Lehrbuch der praktischen Physik' (1910) which latter was a 10th revised edition. His work in the field of electrolysis has been termed "epoch-making." He wrote also 'Ueber die Leitungswiderstand des Quicksilbers' (Munich 1888); 'Das Leitvermögen der Elektrolyte, bis besondere der Lösungen' (Leipzig 1898); 'Kleiner Leitfaden der praktischen Physik' (ib. 1900). The latter is an elementary work based on his 'Leitfaden.'

KOHLRAUSCH, Rudolf Hermann Arndt, German physicist: b. Göttingen, 6 Nov. 1809; d. Erlangen, 9 March 1858. He was successively teacher of mathematics and physics at Lüneberg, Rinteln, Cassell, Marburg. He was appointed professor of physics of the University of Erlangen (1857). In collaboration with W. Weber, he carried out the first mechanical measurements of electric currents, laying the ground for the absolute system of electrical measurement. Consult Weber, W., and Kohlrausch, R., 'Fünf Abhandlungen über absolute elektrische Stromung Widerstandsmessung' (in Paper No. 142 of Ostwald's 'Klassikern der exakten Wissenschaften,' Leipzig 1904).

KOHLSAAT, kōl'sät, **Herman Henry,** American publisher: b. Albion, Ill., 22 March 1853. He was educated in the public schools of Galena and Chicago, Ill., and after acting as traveling salesman for several years for Chicago firms became in 1880 a junior partner in a wholesale bakery. He became the originator of the "bakery lunch," subsequently acquired a fortune in the bakery business and other enterprises. From 1891–93 he was part owner of the *Inter-Ocean* of Chicago. From 1894–1901 he was editor and publisher of the Chicago *Evening Post* and the *Times-Herald.* The latter, in 1901, was amalgamated with the Chicago *Record* into the *Record-Herald* of which paper he was editor, 1910–12. In 1912 he bought the *Inter-Ocean,* then bankrupt, succeeded in seeing it through another receivership in 1914 in which year he combined it with the *Record-Herald,* the new paper being known as the Chicago *Herald.* At the same time he retired from the publishing field. Consult Flower, E., 'H. H. Kohlsaat' (in *Cosmopolitan Magazine,* Vol. XXXV, p. 338, New York 1903); Wellman, W., 'Mr. Kohlsaat of Chicago and His Part in the Political History Making of 1896' (in *Review of Reviews,* Vol. XV, p. 41, New York 1897).

KOHN, kōn, Salomon, German novelist: b. Prague, 8 March 1825; d. there, 6 Nov. 1904. He was the son of a Jewish merchant; studied at the local university (1844–46), then became partner in his father's business and was sole proprietor from 1863. But (since 1873) he devoted his entire time to literary work. His novel 'Gabriel' was first published anonymously in a collection of works entitled 'Sippurim' (Prague 1852), and had various translations, but, strangely, only obtained circulation in Germany in the English, the author's name being unknown and his right to the authorship not being proven till 20 years later. Of his other works should be cited 'Ein Spiegel der Gegenwart' (Jena 1875); 'Die silberne Hochzeit' (Leipzig 1882); 'Prager Ghettobilder' (ib. 1884); 'Neue Ghettobilder' (ib. 1886); 'Der Lebensretter und andere Erzählungen' (Berlin 1893); 'Fürstengunst' (ib. 1894); 'Ein deutscher Handelsherr' (Zürich 1896); 'Judith Löhrich' (Strassburg 1897).

KOKO-NOR, kō'kō-nôr', or **KUKU-NOR,** a lake in Tibet, not far from the Chinese province of Kan-su, 100° E. and 37° N. It lies 9,975 feet above the level of the sea. Its very salt waters, exquisitely blue in color, cover 66 miles by 40. It is very rich in fish, in spite of the fact that its surface is frequently frozen for two to three months. It contains five islands, one with a Buddhist monastery. In the west it receives the waters of the river Buhaingol. In the south it is bordered by the southern part of the Kokonor Mountains (10,000 feet).

KOKOMO, Ind., city, county-seat of Howard County, on the Wildcat River, and on the

Toledo, Saint Louis and Western, the Pittsburgh, Cincinnati, Chicago and Saint Louis, and the Lake Erie and Western railroads, about 55 miles north of Indianapolis. It was settled in 1844 by Daniel Foster, incorporated as a town in 1845 and chartered as a city in 1855. Kokomo is located in a region of good farms, but it is a manufacturing and commercial city. The chief manufacturing establishments are plate, opalescent and table glass works, potteries, steel-mills, a fibre-bond mill, stove works, rubber works, automobile factories, bit works, pulp and paper-mills, bits, nails, tools, rods, electrical goods, trunks and mitten works. There are seven churches, a classical school, a high school, public and parish schools, a hospital and a public library. The three banks have a combined capital of over $300,000. The government is vested in a mayor and 10 councilmen, elected for four years. Pop. 20,930.

KOLA, kō'lą, Russia, a county town in government of Archangel, on the Kola Peninsula, at the confluence of the rivers Tuloma and Kola. It is near the district Alexandrovsk with its harbor and naval station, and its sparse inhabitants live mostly by fishing and hunting. As early as 1264 mention is made of this place, and it was fortified in the 16th century, serving as a location for exiles. It faces Katerinenhafen, which, in spite of its extreme northerly Arctic position, is an open harbor the year round, frequently.

KOLA-NUT. See COLA-NUT.

KOLA PENINSULA, Russia, situated between the White Sea and the Arctic Ocean, and consisting largely of mountain ranges with pine forests covering their bases interspersed with large lakes. The Arctic coast here, some 260 miles long, is known as the Murman Coast, and has been recently brought very prominently before the eyes of the world by the landing of the Allied troops, including an American contingent. Its rocky coast has numerous sheltering bays, one of which, Kola Bay, forms the government naval harbor and station Alexandrovsk. The peninsula has an area of about 50,000 square miles.

KOLAR, kō'lär, **Josef Jiri**, Bohemian actor, dramatist and novelist: b. Prague, 2 Feb. 1812; d. 1896. He studied philosophy at Prague University, but soon devoted himself to the theatre and became (1839) a member of the Prague State Theatre, gaining fame in Shakespearean rôles. He was appointed director of the Czech Theatre at Prague (1869), becoming later a novelist. Among his numerous plays are 'Monika' (1847); 'Zižkova smrt' (1859); 'Magelona' (1851); 'Pražsky žid' (1872); 'Smiřičti' (1881); 'Primator' (1883), etc. He made excellent translations of the plays of Shakespeare, Goethe and Schiller.

KOLB, kölp, **Georg Friedrich**, German politician, statistician and publicist: b. Speyer, 14 Sept. 1808; d. Munich, 16 May 1884. He was elected member of the Bavarian Landtag (1849) and published the *Neue Speyerer Zeitung*, which was suppressed in 1853. He escaped persecution by living in Zürich, but again became member of the Bavarian Landtag (1863), when he strenuously opposed the union of Bavaria in the German Bund. His principal works are 'Handbuch der vergleichenden Statistik' (Zürich 1857; 8th ed., Leipzig 1879); 'Statistisches Handbüchlein der Völkerstands- und Staatenkunde' (Leipzig, 5th ed., 1875); 'Kulturgeschichte der Menschheit' (ib. 1868–70). Under the pseudonym "Broch" he wrote 'Italien und jetzige politische Luge des übrigen Europas' (Zürich 1859), and 'Kaspar Hauser' (ib. 1859).

KOLBE, köl'bē, **Adolph Wilhelm Hermann**, German chemist: b. Elliehausen, near Göttingen, 27 Sept. 1818; d. Leipzig, 25 Nov. 1884. He studied at Göttingen and became assistant to Bunsen (1842) in Marburg. He was assistant to Playfair at London (1845), but returned to Marburg (1847) in order to continue, with Frankland, work on the nitrites started in London. He moved to Brunswick the same year and edited 'Handwörterbuch der Chemie' of Liebig and Wöhler. He was made professor at Marburg (1852) and at Leipzig (1865). Very important work of his was research into the action of chlorine on carbon-disulphide; on the decomposition of the organic acids by electric currents; on the production of acids with higher carbonic-acid from cyanogen combinations with the alcohol-radicles; on the synthesis of cacodyl, etc. Based on the doctrine of the *para* radicles he attempted to advance chemistry on the radicle theory and remained antagonistic to the type and structural theory. He discovered the synthesis of corallin from phenol (1861) and invented a simple process of salicylic acid production from phenol and carbonic acid, learning the next year the antiseptic properties of this composition. He wrote 'Ausführliches Lehrbuch der organischen Chemie' (Brunswick 1855–64), which has had many revised editions; 'Kurzes Lehrbuch der inorganischen Chemie' (ib. 1883); 'Zur Entwicklungsgeschichte der theoretischen Chemie' (Leipzig 1881). He edited the *Journal für praktische Chemie* from 1870. Consult Hofmann, 'Nekrolog auf H. Kolbe' in *Berichte der deutschen chemischen gesellschaft* (Berlin 1884).

KOLBERG. See COLBERG.

KÖLBING, kēl'bing, **Eugen**, German scholar: b. Herrnhut, 21 Sept. 1846; d. Henrenalb, 10 Aug. 1899. He studied at Leipzig and taught in the Chemnitz Gymnasium (1871–72). He was appointed librarian at Strassburg and became private teacher (docent) at the Breslau University (1873). In 1880 he received the degree of assistant professor and was made (1886) professor of the English language and literature. He made a specialty of mediæval English literature. He wrote 'Untersuchungen über den Ausfall des Relativ-Pronomens in den germanischen Sprachen' (Strassburg 1872), and edited a number of old Norse sagas. Among his other works are 'Beiträge zur vergleichenden geschichte der romantischen Poesie und Prosa des Mittelalters' (Breslau 1876); 'Chanson de Roland,' after the Venetian manuscript (Heilbroun 1877); 'Die nordische und englische Version der Tristansage,' with translation (ib. 1878–82); 'Amis and Amiloun,' the Middle-English romances (ib. 1884); 'Sir Bevis of Hamtoun' (London 1885–94); 'Ipomedon' (Breslau 1889); 'Arthour and Merlin' (Leipzig 1890); Byron's 'Siege of Corinth' (1893) and 'Prisoner of Chillon' (1896). He founded

(1877) the periodical *Englische Studien*. Consult his biography in *Englische Studien* (Leipzig 1900).

KOLB'S FARM, Engagement at. After the action at Pine Mountain (q.v.), 15 June 1864, General Sherman closed in on the Confederate army defending Marietta and the railroad south to the Chattahoochee, and began the extension of his lines to the right. The Confederates made a corresponding move to the left, and on the night of the 21st Hood's corps of two divisions, Hindman's and Stevenson's, moved from the right, near the railroad north of Mariettta, to the Marietta and Powder Springs road, near Zion Church, about four miles southwest of Marietta and a mile east of Kolb's farm. Hood now occupied the extreme left of the Confederate line, and had been instructed by Gen. J. E. Johnston to endeavor to prevent any progress of Sherman's right toward the railroad, the course of which was nearly parallel to the Confederate left and centre, and which was seriously menaced by Hooker's and Schofield's corps. On the morning of the 22d Schofield had advanced one division, Hascall's, on the road from Powder Springs Church to Marietta, with orders to take position on Hooker's right, near Kolb's house. Hooker, in going to the right and forward, reached to the Marietta road at Kolb's, and made connection with Hascall's division. Williams' division, massed by brigades, held Hooker's right, Geary's division was on the left of Williams and Butterfield's division was further to the left on the line of Howard's Fourth corps. Williams and Hascall had very sharp skirmishing in getting into position, and from prisoners taken of Hood's corps it was learned that Hood, supported by Hardee, was about to attack, upon which both Williams and Hascall were ordered to deploy their divisions, and they threw up breastworks, Hascall in heavy woods and Williams, for the greater part, on open, commanding ground, giving good positions for artillery. The deployment had not been completed and but few breastworks had been thrown up when, about 5 P.M., Hood made his attack. As he advanced from the woods which had sheltered him and concealed his line, his right was met by a terrific fire of shell, case-shot and canister that tore great gaps in the line and partially broke up his formation; but he pressed on and, coming under still closer canister fire and deadly volleys of musketry, was repulsed after a most desperate struggle of less than an hour. The attack fell upon the divisions of Williams and Hascall, Williams losing only 130 killed and wounded and Hascall a less number. Hood's loss was 1,012 killed and wounded and about 100 missing. Consult 'Official Records' (Vol. XXXVIII); Cox, J. D., 'Atlanta' (New York 1882); Johnston, J. E., 'Narrative of Military Operations' (New York 1874).

KÖLCSEY, kēl'sē, Ferencz, Hungarian poet and critic: b. Szödemeter, Transylvania, 8 Aug. 1790; d. Szathmár, 24 Aug. 1838. He studied at Debreczin and went to Pest as a royal officer of the law (1809), where he gave out his first efforts in poetry (1813) and founded (1826) the periodical *Élet és irodalom* (*Life and Literature*), for which he contributed a large number of articles on philosophy, art, history and criticism. He was a member of the Hungarian Diet (1832–36) and the chief orator of the Liberal party. The Hungarian Academy elected him a member. His 'Journal of the Landtag, 1832–36' (Pest 1848) is interesting. He was the author of the Hungarian national hymn. His complete works were published by P. Szemere (2d ed., Pest 1863).

KOLDING, kōl'ding, Denmark, a town on the east coast of Jutland, situated on Kolding Fiord, a small bay of the Little Belt, and the junction of several railways. The town does a good shipping business as well as considerable trade in lumber, grain and other products. On the northwest side is the picturesque ruin of the burned (1808) royal castle Koldinghuus, built in the 13th century for the residence of the Danish kings. In 1849 the Schleswig-Holstein army under Bonin defeated the Danes here, causing much damage to the town. An antiquarian and historical museum is here. The population, about 14,219. Consult Fühn, 'Efterretninger om Kjöbstaden Kolding' (Kolding 1848–60).

KOLHAPUR, kō'lą-poor', or **KOLAPUR,** India, capital of the state of the same name, is terminus of one of the Southern Mahratta Railway's branches. It is 144 miles south by east of Poona and 188 miles south-southeast of Bombay, situated on the Panchganga River, which is crossed here by a bridge. Numerous fine modern buildings include the palace of the Rajah, government offices, city hall, treasury, etc. From its interesting Buddhist remains this must have been once a religious centre of importance, evidenced in temples, shrines, caves cut into the rock and decorated, etc. Pop. 48,122.

KOLHAPUR, or **KOLAPUR,** India, the principal state under the Bombay government, covering an area of 3,165 square miles. In the western division it is covered with its mountainous Ghats, but the eastern section has the fertile Deccan plain. The western Ghats furnish little else than lumber and are the strongholds of the feudatory Mahrattas. The vegetable produce of the valleys and plains are rice, millet, cotton, tobacco, sugar-cane, etc. The overlords, or rajahs, claim descent from Sivaji the Great, the Mahratta Empire's founder. Pop. 883,441.

KOLIN, kō-lēn, Austria, this Bohemian city is in part termed Neukolin and is built on two islands produced by the river Elbe at this point and crossed by two iron bridges. It is reached by two railways, the Austro-Hungarian State Railroad and the Northwestern Railroad, and is the seat of government offices.

It contains the 14th century Gothic Bartholomew church, an Evangelical church and a synagogue, an ancient palace and townhall, gymnasium, commercial and trade schools, two sugar and two machine factories, several chemical works, petroleum refinery, two breweries, etc. It does a large trade in vegetables and fruit grown in the vicinity. A noted battle was fought here 18 June 1757 between the Austrians under Daun and the Prussians under Frederick the Great, ending in the latter's defeat and the consequent raising of the siege of Prague as well as the evacuation of Bohemia, together with a battle loss of 14,000 casu-

alties, 29 standards and 43 cannon, while the Austrians lost about 8,000. Pop. 17,000, mostly Czechs.

KOLLÁR, kōl'lär, **Jan,** Czech poet and archæologist: b. Mossocz, Hungary, 29 July 1793; d. Vienna, 24 Jan. 1852. He studied at the Pressburg Lyceum (1812–15) and then at Jena, becoming Slovak preacher (1819) to the newly-founded Evangelical Community in Pest. His first work was a collection of short poems, 'Basné' (Prague 1821), followed by 'Slavy Dcera,' the Daughter of Slava, (Pest 1832). The work was added to in further editions (Pest 1845; Vienna 1852; Prague 1862). In these celebrated poems he gives expression to his pain over the suppression of his race under German kultur. He next brought out a praiseworthy collection of Slovak folk-songs, 'Narodnie zpěvansky' (Pest 1834–35). Of his other works should be mentioned 'Rozpravy o jmenach, etc.' (ib. 1830) concerning the names and ancient monuments of the Slovak peoples. With the fight for the freedom of his language in Hungary the entire Slovak youth congregated around the noted poet, although he tried to repress the tendency to Panslavism. He was appointed professor of archæology at the University of Vienna (1849). After his death appeared the archæological work 'Staroitalia slavjanska' (Vienna 1853; Prague 1863) concerning Slavonic Italy. A collection of his works, containing the poet's autobiography, was published (Prague 1862–63) and a second edition (1868), but both are incomplete.

KÖLLIKER, kė'li-kėr, **Rudolph Albert** von, Swiss anatomist and physiologist: b. Zürich, 6 July 1817; d. Würzburg, Bavaria, 13 Nov. 1905. He studied at Zürich, Bonn and Berlin and became an assistant of Henle (1842), and was admitted to the faculty of the university at Zürich (1843) as docent. He received the degree of professor of physiology and comparative anatomy (1845) but moved to Würzburg (1847) where he was appointed professor of physiology and comparative anatomy. He taught anatomy, microscopics and comparative anatomy (1866–1902) and was acknowledged the highest authority on general microscopical anatomy from the time of the publication of his 'Handbuch der Gewebelehre' (1852; 6th ed., Leipzig 1889–96). Much honor is due him for his epoch-making researches in evolution and zoology, more especially respecting the molluscs and worms in which he was a pioneer. He wrote voluminously; his principal works include 'Ueber die Pacinischen Körperchen' (Zürich 1843), written in collaboration with Henle; 'Mikroskopische Anatomie oder Gewebelehre des Menschen' (Leipzig 1850–54); 'Entwickelungsgeschichte des Menschen und der höhern Tiere' (ib. 1861); 'Icones histologicæ' (ib. 1863–65); 'Entwickelungsgeschichte der Cephalopoden' (Zürich 1844); 'Die Schwimmpolypen von Messina' (Leipzig 1853); 'Die normale Resorption des Knochengewebes' (Leipzig 1873); 'Grundriss der Entwickelungsgeschichte des Menschen und der höhern Tiere' (ib. 1880). He edited *Zeitschrift für wissenschaftliche Zoölogie* from 1849 in collaboration with Siebold, and with Ernest Ehlers, later. An accomplished linguist, he was also a great traveler, well known in all leading European educational centres. Consult his 'Errinnerungen aus meinem Leben' (Leipzig 1899).

KOLMAR, kōl'mar, Germany, city and capital of the district of Kolmar in the German Reichsland of Alsace-Lorraine, Upper Alsace, formerly in the French department of Haut Rhin, 40 miles south-southwest of Strassburg. Its fortifications were destroyed in 1673 and it is now surrounded by boulevards and entered by three gates. Here is the public library with 80,000 volumes and some pictures by Schön, Albert Dürer, etc.; and the museum, where, among other curiosities, a remarkable aërolite is preserved, which fell near Ensisheim in 1492 and originally weighed about 284 pounds. The portion here weighs about 142 pounds. Kolmar has manufactures of printed goods, calicoes, silks, etc., besides cotton-spinning mills, tanneries and chamois-leather works. It has a considerable trade in the manufactured goods of Alsace, and in iron, grain, wine, madder, etc.; and in colonial produce, with which it supplies Switzerland. It became one of the free imperial cities in 1226, and as such became a place of consideration. In 1632 it was taken by the Swedes, who maintained possession for two years. It was united to France in 1697 by the Peace of Ryswick, and surrendered to Germany by the Treaty of Versailles, 26 Feb. 1871. In the French invasion of Alsace which followed the outbreak of the Great European War in 1914, Kolmar was captured; but the city was soon reoccupied as a result of a German counterstroke Pop. 43,808.

KOLO, kō'lō, Russia, a town in the Russian Polish government of Kalisch, situated on an island in the river Warthe. It has a Benedictine church, several factories and a population of 11,655 in 1910. In the World War this town was one of the bases of the Germans in their first drive at Warsaw and it was a passing point for troops in the following expeditions against Warsaw. The neighborhood contains a number of important brick kilns.

KOLOKOTRONIS, kō'lōk-ō-trō'nĭs, **Theodoros,** Greek general: b. Karytena, Arcadia, 15 April 1770; d. Athens, 15 March 1843. He took part in the sieges of Tripolitza, Nauplia and Corinth and invaded Livadia (1821) as a leader of the Klephts against the Turks. In the next campaign he beat the Turks at Kleones and Phlius. He seized Nauplia and made himself governor (1823) and, by force of threats, was appointed commander-in-chief and, later, vice-president of executive council. Fighting adversely against the government troops under Guras, he withdrew to Karytena and was made state's prisoner (1825). The campaign losses of the Greeks caused them to entrust him with an army-corps and he fought adversely against Ibrahim Pasha. Under Count d'Istria he acted as general in the Peloponnesus and was chosen a member of the provisional government commission on the death of the president, but sided with the Russians against the government. He turned against the regency, but was arrested (1834) and condemned to death for high treason, but the sentence was changed by King Otho to 10 years' imprisonment. On the king coming of age and ascending the throne

(1835), he was released and his rank of general restored, besides honors being bestowed on him. He lived thenceforth at Athens. Consult Edmond's translation of 'Kolokotronis the Klepht and the warrior, an autobiography' (London 1891); Bikelas, 'Un héros de la Guerre de l'Independance' (in 'La Grèce byzantine et moderne,' Paris 1893).

KOLOMAN, kōl'ō-măn, spelled also **KOLOMANUS, KALMAN** and **COLOMAN,** king of Hungary (1095–1116). He was son of Gézas I and overthrew (1097) an insurrection of the Croats. Conquering the greater part of Dalmatia, he attacked Galicia (1096). He suppressed the efforts of Emperor Heinrich V to place his brother Almos on the throne, and, after several revolts, he had Almos and his son Béla blinded. He was active as a lawmaker, regulating the taxes and treasury as well as the right of succession of the nobility. The Church was greatly benefited by his acts and the Jews were forbidden trading rights. His son Stephan II succeeded him.

KOLOMEA, kō'lō-mā'ą, Austria, a town in Galicia, situated on the Pruth and on the Lemberg-Czernowitz Railroad, the local Delatyn-Stefanowka and Kolomea-Sloboda Rungurska lines, 42 miles from Czernowitz and 122 miles from Lemberg by rail. It possesses a number of churches of different denominations, monuments to King Kasimir IV and the poet Karpinski, a Polish and a Ruthenian gymnasium, trade schools for the wood industry and for pottery work, the latter being its leading industry. Other manufactures are flour-milling, petroleum refining, textile and embroidery work; it also does a large trade in agricultural products. The population in 1910 was 42,676, consisting chiefly of Jews and Poles.

KOLOMNA, kō'lōm-nạ, Russia, county-town of the government of Moscow, on the junction of the Moskva and Kolomenka rivers and on the Moscow-Ryazan Railroad. It possesses the ancient remains of the fortified Kreml, the beautiful 17th century Assumption of the Blessed Virgin Cathedral, church of the Resurrection, 12 other churches, a monastery and a nunnery. Among its institutions are a gymnasium, city bank, several factories — notably the Kolomna Machine Factory — and it has a large agricultural trade. As early as 1177 mention is made of this town and it was here that the Mongols (1237) under Batu beat the Russian Grand Duke Jurie. Pop. 26,324.

KOLYMA, kō-lē'mă, Siberia, a river in the government of Yakutsk, which rises in the mountains of Stanovoi-Krebet. After a course of about 1,000 miles it falls into the Arctic Ocean. The chief tributaries are the Greater and the Lesser Aniuj and the Omolon, which enter it on the left not far from the sea. Afterward the river divides into two, and subsequently into three, branches, forming a delta. The Kolyma from May to September is ice-free and has sufficient depth for any vessel, but navigation, especially at the entrance, is rendered dangerous by shifting sand-banks.

KOLZOV, kōl-tsŏf, **Alexej Vasiljevitch,** Russian national poet: b. Woronezh, 14 Oct. 1809; d. there, 31 Oct. 1842. He carried on, as a youth, his father's business of cattle-trader, but educated himself by a study of the works of Lomonossov, Derzhavin, Zhukovsky, Pushkin and others. He then practised versification. In Moscow (1831) he found an opportunity to get his poems published, and through them gained numerous and influential patrons. One of the latter, Stankevitch, published (1835) a collection of 18 of his poems. An edition of his complete poems, with his biography by Belinsky, was published (Saint Petersburg 1846; last ed., 1909). He was the first poet to treat the Russian folklore in truly artistic manner, and has been termed the Russian Burns. Most of his poems have been translated into German by Fridler and published in Reclam's *Universal Bibliothek* (Leipzig 1885); also by M. Michelson (Saint Petersburg 1891).

KOMORN, kō'môrn, Magyar **KOMAROM,** Hungary, a royal free town with municipal powers and a fortification on the left bank of the Donau River, capital of the county of the same name. It is 65 miles west-northwest of Budapest by rail, and has seven churches, three monasteries, an important grain and lumber industry, besides fisheries. Its institutions include also a Benedictine gymnasium and officers' pavilion, and a monument to the Hungarian general Klapka, who held the old fortress (built originally by Matthias Corvinus, in the 15th century) long after the suppression of the Hungarian revolution elswhere, but capitulating to the Austrian army 27 Sept. 1849. This is the seat of a Reformed bishop, and it was here that the noted novelist Maurice Jókai was born. Its population in 1910 was 22,337. Consult Szillányi, 'Komorn in Jahr 1849' (Leipzig 1851); Szinnyei, 'Komorn in the Year 1848–1849' (Budapest 1887, in Hungarian).

KOMPERT, kōm'pērt, **Leopold,** Austrian novelist: b. Münchengrätz, Bohemia, 15 May 1822; d. Vienna, 23 Nov. 1886. He studied at the Prague University and was appointed tutor of the children of Count Andrassy at Pressburg. He continued his studies (1847) at Vienna University. The revolution of the year 1848 drew him into politico-journalistic activity and he became editor of *Oestreichischen Lloyd.* In 1852 he accepted a tutor's position in Pest, but returned to Vienna (1857) where he devoted himself to literature. Of Jewish descent his stories treat of Jewish life and conditions; in them he combined a large measure of truthful poetic action and description with great originality. His principal works are 'Geschichte aus dem Ghetto' (Leipzig 1848; 3d ed., 1886); Böhmische Juden' (Vienna 1851); 'Am Pflug' (Berlin 1855); 'Neue Geschichten aus dem Ghetto' (Prague 1860); 'Novellen' (ib. 1860); 'Geschichte einer Gasse' (Berlin 1865). Of novels he wrote, among others, 'Zwischen Ruinen' (Berlin 1875); 'Franzi und Heini' (ib. 1880); 'Verstreute Geschichten' (ib. 1883). His collective works were published in eight volumes as 'Gesammelte Schriften' (Berlin 1882, and Leipzig 1887). Consult *Allgemeine deutsche Biographie* (Leipzig).

KOMURA, kō'moo'rą, **Jutaro,** MARQUIS, Japanese statesman and diplomat: b. 1855; d. Hayama, 24 Nov. 1911. In 1875 he was one of the first group of students sent by the Japanese

government to the United States. He was graduated at Harvard in 1877 and returned home, where he served some years in the Department of Justice and that of Foreign Affairs. Appointed secretary of legation in Peking, he acted as chargé-d'affaires during the negotiations that culminated in the Chino-Japanese War of 1894–95. He next served as civil administrator at Antung, then on a special mission to Korea, and subsequently as Vice-Minister of Foreign Affairs in Tokio. From this post he was launched on his ambassadorial career, being successively Minister to Washington, Saint Petersburg (Petrograd) and Peking, where he served during the troublous period of the Boxer Rebellion. In 1901 he became Foreign Minister in the Katsura Cabinet; he conducted the negotiations preceding the Russo-Japanese War and also the peace negotiations at Portsmouth. While the results of that were displeasing to the Japanese people, it is generally regarded that Komura really achieved a diplomatic victory by the Treaty of Portsmouth, which brought Japan the peace she sorely needed as well as the prime objects of the war. As Foreign Minister Komura had formed the Anglo-Japanese Alliance in 1902; three years later he was sent to England — the first Japanese Ambassador to that country. He returned in 1908 to take again the Foreign Office in the second Katsura Cabinet. He remained at work until a few weeks before his death — of tuberculosis — and left a profound impression on Japan's foreign relations. The late King Edward bestowed two decorations upon him in 1905 and 1907. On the renewal of the Anglo-Japanese Alliance in July 1911, modifications were introduced into the treaty to permit its obligations from clashing with the provisions of the arbitration treaty then signed, but not ratified, between Great Britain and the United States, the two countries for which Komura entertained sincere admiration and personal regards.

KONDRATOWICZ, kŏn'drā-tŏ'vich, **Ludvik Vladislaw,** Polish poet: b. Jaskówicze, Lithuania, 17 Sept. 1823; d. Vilna, 15 Sept. 1862. He is better known under his heraldic *nom-de-plume,* Vladislàw Syrokomla. He lived as a farmer in Zalucze on the Niemen and, later, near Vilna, but always in the greatest poverty. His poetry was not given over to high flights, but was fired with enthusiasm and deep, honest feeling, expressed with unusual simplicity. Among his folk stories are 'Urodzony Jan Deboróg' (1854); 'Janko Cmentarnik' (1856); 'Nocleg hetmański' (1857); 'Zgon Acerna' (1856); the latter dedicated to the poet Klonowicz (q.v.), whose said life story mirrored his own. His dramatic attempts, such as 'Kasper Karlinski,' were not so successful. He wrote a history of Polish literature — 'Dzieje literatury w Polsce' (2d ed., Warsaw 1875), and his metrical translations of the Polish-Latin poets are excellent. A collective edition of his poems was published (10 vols., Warsaw 1872). His biography was written by J. J. Kraszewski (ib. 1863).

KONG, West Africa, an inland city of importance in the district of the same name belonging to the French Ivory Coast colony. Prosperous cotton goods factories exist here, but its native commerce is chiefly in gold, cocoanuts and salt. Its population is about 15,000, consisting chiefly of Mohammedans. One of the first Europeans to visit this section was the French captain L. G. Binger, who in 1888 did much toward bringing the natives under French protection.

KONGO, kŏng'gō, or **CONGO, The,** once an independent state in central Africa (1882); a Belgian colony, 1907. It is bounded northwest and north by French Kongo and British East Africa, the dividing line being partly the Kongo itself and its tributary, the Ubangi; on the east it is bounded by British East Africa, German East Africa, Lake Tanganyika and British Central Africa; on the south by the Portuguese and British territories. It reaches the Atlantic at the mouth of the Kongo by a narrow neck of land. The territory has an area of 913,127 square miles, and is divided into 22 administrative districts, each of the districts being under a commissioner. In 1913 there were 350 posts and stations. The estimated revenue for 1914 was £1,218,050 and the expenditures £2,077,440. The public debt in 1912 stood at £1,149,888. The northeastern portion of the state, forming fully one-third of the whole, is mostly under dense and almost impenetrable forest, but the remainder largely consists of arable land of considerable fertility. Among the cultivated plants are maize, millet, manioc, tobacco, coffee, sugar-cane, hemp, bananas, etc., and most of the fruits and vegetables of Europe have been found to thrive excellently. The wild animals include the elephant, hippopotamus, crocodile, buffalo, antelopes of various kinds, the chimpanzee, soko, etc. The imports consist mostly of woven goods, spirits, tobacco and firearms, and the exports comprise ivory, rubber, ground-nuts, palm-oil, gum-copal, wax, etc. The climate is very unhealthful to white men owing to the combination of great heat with a very moist atmosphere, but in a few of the more elevated spots it is much better. There are two rainy seasons, namely, October-December and February-May, the latter being much the wetter, and between these intervene the two dry seasons. There are not as yet many good roads in the state, but there are thousands of miles of navigable rivers. The Kongo is navigable from the sea up to Matadi, and again for 1,200 miles between Stanley Pool and Stanley Falls, but the portion between Matadi and the Pool is obstructed by cataracts. In 1913 there were 1,039 miles of railway. The Great Lakes Railway, completed in 1915, links up the Upper Kongo with the German railway from Dar-es-Salaam to Udjidji. The colony is also linked up, via Elizabethville, with the Cape-to-Cairo Railway. In 1912 the tonnage entered at the ports was 1,044,864 tons. The bulk of the inhabitants are of Bantu stock, but in the extreme north the proper negro type is found, and in some of the eastern parts of the state Arabs and other ethnical groups occur. Large numbers of the inhabitants are cannibals of the most pronounced type, and the vast majority are heathens.

After Stanley had proved the identity of the Lualaba with the Kongo, a Comité d'Etudes du Haut Kongo was formed under the auspices of Leopold II, king of the Belgians, and in 1879 this body commissioned Stanley to return to

the Kongo region with a view to preparing for the development of its resources. He established his first station at Vivi, and afterward founded others at Isangila, Manyanga, Leopoldville, Equatorville, Stanley Falls and elsewhere, several of these being connected by good roads. In 1884 the African International Association replaced the committee, and in the following year it secured the foundation of the Kongo Free State and the recognition of its independence by the Congress of Berlin. Trade and navigation on the Kongo and all the rivers, lakes and canals connected with it were declared absolutely free, and the suppression of the slave-trade was provided for. Leopold II was made sovereign, and Brussels was named as the seat of the government. In 1889 Leopold bequeathed his sovereign rights to Belgium. In 1890 the territories of the state were declared inalienable, and in that year also the right was reserved to Belgium of annexing it after 10 years. This convention expired on 3 June 1903, when the Belgian government decided to abandon the project of annexation, allowing the option to expire, the reasons given being popular opposition and the attitude of Great Britain. Scandals connected with the administration, especially in regard to the treatment of the natives, aroused in 1904 and 1905 world-wide interest, commissions of inquiry were appointed and remedies introduced. Under treaty of 28 Nov. 1907 cession of the territories was made to Belgium. The central government, located at Brussels, comprises the king of the Belgians as sovereign, and a secretary of state, etc. At Boma there is a governor-general, under whom of course there are numerous officials. There is an army of native Africans, having an effective strength of about 18,000, commanded by European officers. Besides Boma, the capital, the chief stations are Banana, Matadi, Vivi, Isangila, Manyanga, Leopoldville, Mswata, Kwamouth, Bolobo, Lubolela, Equatorville, Bolombo, Stanley Falls, Nyangwe, Yambuya, Basoko, Benabendi, etc. Pop. estimated at 15,000,000; in 1912 there were 5,465 Europeans, including 3,307 Belgians.

KONGO, or **CONGO RIVER,** Africa, a large river in southwest Africa, flowing into the Atlantic Ocean in lat. 6° S.; long. 12° 40′ E. Its estuary was discovered by the Portuguese, Diego Cam, in 1482; and the lower part of its course was first explored by Captain Tuckey in 1816. The upper part of the river remained unknown until Stanley, by descending from Nyangwe on the Lualaba to the mouth of the Kongo (1876–77), proved the two rivers to be identical. The Kongo is formed by the junction of the Luapula and the Lualaba in about the same latitude as the mouth. Of these the former issues from the south end of Lake Bangweolo, bends northward and flows into Lake Moero, on leaving which it pursues a northwesterly course. The chief inflowing river of Bangweolo is the Chambezi, which enters the lake on the east after flowing southwest from the mountains of northeastern Rhodesia. The Lualaba rises by several headstreams in the south of Kongo Free State and flows north and north-northeast through a series of lakes to its junction with the Luapula. The river thence flows north and slightly west to Nyangwe, receiving the Lukuga on the right from Lake Tanganyika, thus being connected immediately with the great lake system of central Africa. It then follows a northerly course for about four degrees, near the equator turns to the northwest and holds that direction till it reaches about lat. 1° 45′ N., when it turns first west and then gradually southwest. About the place where the river first crosses the equator there are seven falls, called Stanley Falls, and about long. 17° E. and lat. 2° 30′ S. there begins a series of cataracts and rapids. In this part of its course it receives some very large tributaries, the most important of which are the Aruwimi, the Rubi, the Mongalla and the Mobangi (or Ubangi), which join it on the right, and the Boloko, Lopori, Ikelemba, Ruki and Kwa, which join it from the left, the latter representing the collected waters of the Kassai, the Kwango, Sankuru, etc. Below the Livingstone Falls, near Stanley Pool, the course of the river, which is there contracted, again expands, till at its mouth it attains a breadth of 10 miles. It is navigable for about 110 miles from its mouth up to the cataracts, and above Stanley Pool steamers ply about for about 1,200 miles. The amount of water which the river discharges is greater than that discharged by the Mississippi, the volume of water being next to the Amazon. The length of the river is estimated at 3,000 miles, the entire navigable system of 6,000 miles and the area of its basin about 1,600,000 square miles. The Kongo expedition of the American Museum of Natural History, financed by a group of public-spirited members and friends of the museum, and led by Herbert Lang and James Chopin, left Stanleyville on 4 Sept. 1909 and plunged into the great forests and swamps of the Kongo. After six years in the African jungle, during which time the expedition had been many times given up as lost, it returned in 1915, with some 45 tons of scientific specimens, the most valuable collection ever brought out of Africa. Water and rail communications lead from the mouth of the Kongo to Lake Tanganyika, and from thence southward to the Cape-to-Cairo Railway. Consult Stanley, 'Through the Dark Continent' (1878).

KONGO-SNAKE, one of the slender amphibians of the family *Amphiumidæ,* which take an intermediate place between the cœcilians and the salamanders as the lowest family of the tailed (urodelous) amphibians. Several genera occur in Asia and North America. The giant "salamander" (*Cryptobranchus maximus*) of the mountain streams of Japan, sometimes more than five feet long, and the American hellbender (q.v.) are of the same family. The term "Kongo-snake," however, belongs specifically to the typical genus and species, *Amphiuma means,* which inhabits suitable localities in all the warmer parts of the United States, where it receives its name from the negroes of the Southern States. It is an eel-like creature, with very small, three-toed and almost useless limbs, one pair near the head and the other almost at the caudal extremity, which haunts shallow stagnant waters, is numerous in the Southern rice-fields and is superstitiously feared by many persons although perfectly harmless. It feeds on small fishes, snails, crayfish, insects, etc., which it darts upon in the water or roots out of the mud. It reproduces by eggs, de-

posited at the end of the summer in a damp place, as under a rotting log, which, provided with shells, are connected by a gelatinous cord, and are protected by the female who coils her body about them and afterward takes care of the young. The embryos have well-developed external gills, but these disappear with growth, and even gill-clefts are greatly reduced in adults. Consult Cope, 'Batrachia of North America' (1889); Gadow, 'Amphibia and Reptiles' (New York 1901).

KONGSBERG, kŏngs-bārk, Norway, a mountain town in the county of Buskerud, on the river Laagen and the Hougsund-Kongsberg Railroad. It is the seat of the royal mint and has a silver mine, an arms factory and a monument of Christian IV, its founder. The silver mine was discovered in 1623 and its output averages about 180,000 ounces pure silver annually. Pop. 6,260.

KONIA, kō'nī-ĕ, or **KONIEH,** Turkey, the capital city of the Asia Minor vilayet of that name. It stands at an elevation of 3,300 feet and contains beautiful but ruined mediæval palaces, mosques, madrassas (Moslem seminaries), etc. As the crossing point of important roads, it has remained the chief staple market for county produce, has rug, glove and hose factories, and from 44,000 to 52,000 population, mostly Mohammedan. It has numerous Mohammedan schools and two directed by French Catholics as well as one Greek school. Besides its tombs of saints, it possesses the first monastery of the Mawlawi (whirling) dervishes. This is the starting point of the railroad extension toward Bagdad and is connected with Constantinople. Russian and French consular agents are stationed here. It is the ancient Ikonion (Iconium) of Phrygian origin, and under the Diadochi (Persians) and Romans it was the capital of Lycaonia, and from 1073 became the splendid residential city of the Seljuk sultans of Rum, but fell under the Osmanli rule. The Persian poet Jelal ud Din Rumi (1207–73) lived at the Seljuk court here. The battle of Ikonion, 18 May 1190, was Frederick Barbarossa's last great fight. This city was captured later by Bajesid I (1392), by Mohammed II (1460), and by Ahmed, son of Bajesid II (1511). It was occupied by Ibrahim Pasha when he captured Reshid Pasha (1832) near here. Consult Huart, 'Konia, la Ville des Dervishes tourneurs' (Paris 1897).

KÖNIG, kė'nīk, **Friedrich,** German printer and inventor: b. Eisleben, 17 April 1774; d. Oberzell, 17 Jan. 1833. He learned the art of printing at Leipzig (1790–94), and was active (1803–05) in improving the printing press at Meiningen and Suhl. Lacking the means to carry out his experiments, he appealed, unsuccessfully, to the Saxon and Austrian governments, then traveled to Saint Petersburg (1806) to be again disappointed. He then went to London and made an agreement with the printer Bensley (1809) to carry out his plans for a book-printing machine. They obtained a patent for a platen-press (1810), but the flat-plate principle was soon discarded for the cylinder press. Patents followed (1811, 1813, 1814). He returned to Germany (1817) and formed a company (König and Bauer) at Oberzell and established a steam-press factory. In partnership with Cotta, of Stuttgart, they built a factory for machine-made paper at Schwarzach, near Würzburg (1828). In combination with the inventor's sons the printing-press factory thrived, greatly extending its work with color-printing machinery, etc. (1886). Consult Goebel, 'Friedrich König und die Erfindung der Schnellpresse' (Stuttgart 1883).

KÖNIG, Friedrich Eduard, Semitic scholar: b. Reichenbach, Saxony, 15 Nov. 1846. He studied theology and taught under the faculty of Leipzig University (1879), became professor of theology at Rostock (1888) and Bonn (1900). He wrote 'Historisch-Kritisches Lehrgebäude der hebräischen Sprache' (Leipzig 1881–97); 'Der Offenbarungsgriff des Alten Testaments' (ib. 1882); 'Die Hauptprokleme der altisraelitischen Religionsgeschichte gegenüber den Entwickelungstheoretikern beleuchtet' (ib. 1884); 'Die glaubensakt des Christen nach Begriff und Fundament untersucht' (ib. 1891); 'Einleitung in das Alte Testament' (Bonn 1893); 'The Exiles' Book of Consolation' (Edinburgh 1899); 'Neueste Prinzipien der alttestamentlichen Kritik' (Berlin 1902); 'Bibel und Babel' (ib. 1903); 'Die Babel, Bibel-Frage und die wissenschaftliche Methode' (ib. 1904); 'Im Kampf um das Alte Testament' (ib. 1903); 'Geschichte der alttestamentlichen Religion' (1912).

KÖNIG, Heinrich Joseph, German author and politician: b. Fulda, 19 March 1790; d. Wiesbaden, 23 Sept. 1869. He studied in the Fulda Gymnasium and Lyceum, and was given an official position in the city government at Frankfort. He was appointed secretary of finance at Fulda (1817), and was sent officially to Hanau (1819) and sent back to Fulda (1840). His treatises 'Rosenkranz eines Katholiken' (Frankfort 1829) brought him into conflict with the clergy which caused him to more clearly express his religious views in 'Der Christbaum des Lebens' (ib. 1831). He was, in consequence, excommunicated by the bishop and joined the reform community. He wrote 'Liebwacht und Verfassungswacht, oder über die Bedeutung der Bürgergarden' (Hanau 1831) in his fight for political freedom. As member of the Landtag (1832–33) he was in direct opposition to the Ministry of Hassenpflug and was forbidden to act as representative in the next Landtag. He retired to Hanau (1847) and then Wiesbaden (1860). His tragedy 'Die Bussfahrt' (Leipzig 1836) stands prominent as a dramatic work, but he wrote, for the most part, historical romances and short, sketchy stories. Of such works we might mention 'Die hohe Braut' (Leipzig 1833); 'Die Waldenser' (ib. 1836); 'Williams Dichten und Trachten' (ib. 1839); 'William Shakespeare' (ib. 1850); 'Veronika' (ib. 1844); 'Täuschungen' (Wiesbaden 1858); 'Die Klubisten in Mainz' (Leipzig 1847); 'König Jérômes Karneval' (ib. 1855); 'Deutsche Familien' (Wiesbaden 1862). Autobiographical works are 'Auch eine Jugend' (Leipzig 1852); 'Ein Still-leben' (ib. 1861) and several descriptions of his travels. His chief romances have been published collectively in 20 volumes (Leipzig 1854–69).

KÖNIG, Otto, German sculptor: b. Meissen, 28 Jan. 1838. He studied art at the Dresden Academy and under Hähnel, and later resided at Vienna, where he was appointed (1868)

professor of the Arts and Crafts School of the Austrian Museum. His small groups are inspirations of graceful form and finish. Among his large works are the sepulchral monument of his wife and three children (1874), a "Mourning Victoria" for the monument of Emperor Maximilian of Mexico erected by the marine officers at Pola; a life-size marble group in the Imperial Museum of Art, Vienna; a marble crucifix in the mausoleum of Archduke Sigismund in Gmünd; a fountain group in bronze executed for Queen Olga in Stuttgart, and a bronze statue of Emperor Franz Joseph in Waidhofen.

KÖNIG-GRATZ, kė'nĭg-grāts, Austria, city in Bohemia, situated in a great fertile region at the confluence of the river Adler and the Elbe and connected with the surrounding country by three lines of railroads. It is the episcopal see of Bohemia and among its institutions are an obergymnasium, oberrealschule, teachers' college, trade academy, industrial school of locksmithing, theological-diocesan teachers' institute, boy's seminary, museum and deaf-mute institute. It has manufactures of musical instruments, pianos and organs, roofing-paper, soap, a brewery, a branch of the Austro-Hungarian Bank and a savings bank. Its Gothic cathedral dates from the 14th century. The town was fortified till 1884. King Przemyol Ottokar I raised the status of the location to a town and it became the residence (1363) and a dower town of Queen Elizabeth with its name changed from Hradec (Grätz) to the present one. The city suffered during the Hassite War and the Thirty Year War. The name of this city is especially noted for the bloody battle, fought in its proximity (1866), which decided the Prusso-Austrian War, and which is more generally known to the French and English as the battle of Sadowa. In this engagement the losses of the victorious Prussian army amounted to 360 officers and 8,812 men, dead and wounded, while the Austrian casualties amounted to 373 officers and 12,695 men dead, with 738 officers and 16,127 men wounded, not mentioning the Saxon casualties. Pop. 11,000.

KÖNIGIN LUISE, a small Hamburg-American converted liner, was the first vessel lost in the European War. She was found laying mines off the estuary of the Thames on 5 Aug. 1914, and was sunk by a British destroyer. Of 130 in the crew about 50 were saved.

KÖNIGS, kėn'ĭgz, **Paul Xavier Gabriel,** French mathematician: b. Toulouse, 17 Jan. 1858. He studied at the École Normale and was given the degree of doctor of sciences (1882). He was appointed an official with the Faculty of Besançon (1883) and with the Faculty of Toulouse (1885); and then was made professor of mechanics at the Sorbonne. Many articles in the principal French contemporary scientific journals came from his pen, treating chiefly of geometry and mechanics. He wrote 'Sur les Propriétés infinitesimales de l'Espace reglé' (thesis); 'Sur les Lignes géodésiques' (1893); 'Leçons de l'Agrégation classique de Mathematiques' (1892); 'Leçon de Cinématique' (1895); 'La Géometrie reglée et ses Applications' (1895); Introduction à une Théorie nouvelle des méchanismes' (1905).

KÖNIGSBERG, kėn'ĭgz-bĕrg, Prussia, a seaport town, capital of the province of East Prussia and of the government of the same name, on the Pregel, about 4½ miles above where it enters the northeast extremity of the Frische Haff. It was once the Prussian capital, and the residence of the electors of Brandenburg, and still is a residence of the sovereigns and the place of coronation. It is surrounded by ramparts and detached forts. The larger part of the town is on the north bank of the Pregel, on hilly ground, a feature being an ornamental sheet of water with richly wooded banks, called the Schloss-Teich (Castle Pond). The older portion is divided into three parts — Altstadt, or Old Town, on the west, Löbenicht on the east, and Kneiphof, on an island of the Pregel. The town, provided with electric street railroads, has on the whole a modern appearance. The principal public buildings are the cathedral, begun in 1333, an interesting Gothic structure, situated in the Kneiphof; a new Gothic church in the Altstadt; the Haberberg Kirche, a conspicuous church in the southern portion of the city; the Schloss, or palace, a large building, containing apartments for the royal family, once the residence of the grand-masters of the Teutonic Order; the Schlosskirche, occupying a wing of the palace, in which Frederick I in 1701 and William I in 1861 placed the crown on their own heads as kings of Prussia; the old citadel of Fredericksburg; the handsome exchange, of recent erection; the university, founded in 1554 by the Margrave Albert, and hence called the Albertine, attended (1914) by 1,700 students, accommodated in handsome new buildings in the Renaissance style, and having connected with it a library of 320,000 volumes, a zoological museum, etc.; an observatory which the labors of Bessel have rendered famous, a botanical garden, a conservatory of music, museums and an ecclesiastical seminary. The town contains other valuable libraries in addition to that of the university. The manufactures include locomotives, machinery and iron castings, woolen cloth, yarn and thread, leather, sail-cloth, copper, steel and ironware, chemicals, tobacco and cigars, flour, cement, articles made of amber, earthen and stone ware, liqueurs and artificial mineral waters. There are also breweries and distilleries, and some ship-building. The Königsberg Ship Canal, 29 miles in length, and terminating on the Bay of Danzig, was opened in 1901. The principal exports are grain, flax, hemp, oil-cake, bones, timber, etc. Königsberg is the seat of important provincial courts and public offices. Waterworks, gas and electricity are municipally owned. It was founded in 1255. In 1365 it became a member of the Hanseatic League; was the residence of the grandmaster of Teutonic Knights from 1457–1528; in 1626 was surrounded with walls; in 1657 it received a strong additional defense in the citadel of Fredericksburg, though the object of the margrave who built it is said not to have been so much to defend the town as to overawe its citizens. It suffered much during the Seven Years' War and from the French in 1807. The town suffered investment and bombardment at the hands of the Russians in 1914, but speedy relief was given by the German counter-offensive. Pop. is predominantly Protestant, 245,994. See WAR, EUROPEAN.

KÖNIGSHOF, kėn'ĭgz'hôf, Bohemia, city on the Elbe. Its Czech name is Dvůr Králové, and it has a department staff, Circuit Court, deanery, church and church of the Holy Cross. It also has a gymnasium, textile school, manufactories of cotton goods, bleach, printing-presses, besides flax and jute mills, tanneries, four breweries, etc. It was here that Wenceslas Hanka hoaxed (1817) so many antiquarians with his pseudo-discovery of the oldest Czech manuscript in the ancient church tower. Pop. 11,065, mostly Czechs.

KÖNIGSHÜTTE, kėn'ĭgz-hüt'ĕ, Prussia, a town in the province of Silesia, central point of the coal and iron district and junction of several railways and electric car lines running to the nearby towns of Gleiwitz, Beuthen, Kattowitz, Bismarckhütte, etc. It has two Evangelical and three Roman Catholic churches, a synagogue, gymnasium, seminary for women trade-school teachers, theatre, offices of mine officials, etc. Its chief industry is its great smelting works with allied ammonia, tar and benzine factories, with iron and steel foundries, puddling and rolling mills. It has a considerable manufacturing industry in bricks, glass, bridge metal and wheels. Pop. 72,640. Consult Mohr, 'Geschichte der Stadt Königshütte' (Königshütte 1890).

KÖNIGSKINDER, kĕn'ĭgz-kĭn'dėr (Ger., "Children of the King," or, more correctly, "Kings' Children"), a fairy opera in three acts by Engelbert Humperdinck, story by Mrs. Elsa Bernstein, first produced in New York, Metropolitan Opera House, 28 Dec. 1910. An old witch dwelling in the hills above the town of Hellabrunn had thrown a spell over a king's daughter and held her to watch a flock of geese. A ragged youth, the son of another king, encounters the goose girl in the wilds and falls in love with her, but the spell does not permit her to leave the forest. Three ambassadors from Hellabrunn, respectively disguised as a woodchopper, a broommaker and a fiddler, arrive to seek the missing prince, who had meanwhile gone to the city and accepted employment as a swineherd. The witch tells the ambassadors that the first person to enter the city gates shall be their future king. The multitude are gathered to receive their king when the ragged youth enters, accompanied by the goose girl, who had been delivered from the witch's power. The mob drive the two arrivals away with scorn. The outcasts return to the hut and are poisoned with some pastry left by the witch. A band of children sent out to find the couple discover their dead bodies lying side by side in the snow.

KÖNIGSMARK, kėn'ĭgz-märk, **Hans Christopher,** COUNT VON, Swedish general: b. Kötzlin, Brandenburg, 7 March, 1600; d. Stockholm, 2 March, 1663. He served first as an officer in the Imperal army, then joined (1630) the Swedish forces, becoming colonel (1636) and made several predatory expeditions through half of Germany. He fought under Johann von Banér (1640–41), under Torstenson (1642), drove the Imperialists out of Pomerania (1643) and became (1645) governor-general of the conquered duchies of Bremen and Verdern, forcing the Elector of Saxony to an armistice. He operated on his own account as cavalry general (1646) in northwest Germany and joined forces with Wrangel in the battle of Zusmarshausen (1648) and took enormous booty at the capture of Prague. He was raised to the rank of count (1651), then field-marshal (1655). He was taken prisoner by the Poles and held in captivity till 1660. His biography has been written by K. G. Nordin (Stockholm 1813). Consult Cramer, 'Denkwürdigkeiten der Gräfin Maria Aurora Königsmark und der Königsmarkschen Familie' (Leipzig 1836).

KÖNIGSMARK, Philipp Christopher, COUNT VON, Swedish nobleman: b. Stade, 14 March 1665; d. 1694(?). He started his travels early in life and became acquainted with the Crown-Prince August of Saxony and lived, as a Saxon colonel, for a time in Dresden. He fought under Bjelke in Hungary against the Turks (1685–86) and then went into the service of the Elector of Hanover. On the discovery that he was a secret lover of the Princess Sophia Dorothea, wife of the Crown-Prince (later King George of England) he fled, 1 July 1694, and was probably assassinated or committed suicide. The 'Briefwechsel des Grafen Königsmark und der Prinzessin Sophia Dorothea von Celle,' published by Palmblad (Leipzig 1847) is said to have been forged by the Hanoverian court. Consult Havemann, 'Geschichte der Lande Braunschweig und Lüneburg' (Göttingen 1857); Wilckens, W. H., 'The Love of an uncrowned Queen' (London 1900; Stockholm 1903); Bülau, F., 'Geheime Geschichten und räthselpafte Menschen,' in special edition Reclaim's *Universal-Bibliothek,* 1901, Vol. XII.

KÖNIGSTEIN, kėn'ĭgz-stīn, Germany, a town in Saxony, 25 miles from Dresden by rail, situated at the confluence of the Biela and Elbe rivers. It has an Evangelical and a Catholic church, a monument to the composer Julius Otto, saw mills, iron foundry, manufactures of cellulose, machinery, metal buttons, etc. A very noteworthy feature of the town is its great fortress lying to the northwest and serving chiefly for the storage of the archives, treasury-gold and other valuables, as well as for a prison for the military. Pop. about 5,000.

KONINCK, kō'nink, **David de,** Dutch painter of still life: b. Antwerp, 1636; d. about 1699. He was a pupil of Peter Boel at Antwerp and was made master in the Saint Luke's Guild. He painted animals, alive and dead, fruits, flowers and other still life after the style of Jan Fyt. Having traveled through Germany and France he went to Rome (1670), returning, in 1697, to Antwerp. He took up his residence at Brussels in 1699. His pictures are rare; the Royal Museum, Vienna, has one of his still life (dead ducks) work.

KONINCK, or **CONINGH, Philips,** Dutch landscape painter: b. Amsterdam, 5 Nov. 1619; d. there, October 1688. He studied and perfected himself in landscape painting under Rembrandt, and favored the depiction of flat lands which distinguish themselves by the vastness of the view. His pictures are rare, a few being in the Royal Museum, Amsterdam, the Boymans Museum, Rotterdam, the Berlin Museum and in Frankfort. The New York Metropolitan Museum of Art owns several.

KONINCK, or **CONINGH, Salomon,** Dutch painter: b. Amsterdam, 1609; d. there,

August 1656. He was a pupil of David Colyns François Venant and Nicolaas Moeijaert, and became (1630) member of the guild of master painters. He kept in close touch with Rembrandt, in whose style he painted portraits, historical paintings and genre pictures. His work is to be seen in the galleries of Berlin ('Call of Matthew as an Apostle'); Dresden (the 'Hermit' and 'Astronomer'); Schwerin ('Joseph as Interpreter of Dreams'); also in Brunswick, etc.

KONOTOP, kŏ'nŏ'tŏp, Russia, a district town in the government of Tchernigov, situated on the left bank of the Jesutch River and the junction of two railways. It has five churches and a technical school. The district is especially fertile and produces grain far beyond its own needs, and does profitable bee-keeping. Pop. 28,100.

KONRAD VON HOCHSTADEN, kŏn'rot fŏn hōg'stä-dĕn, German prelate and statesman: d. 28 Sept. 1261. He became archbishop of Cologne (1238) and was in constant feud with his neighbors, especially with the Duke of Brabant and Counts von Limburg and von Jülich. He joined the archbishop of Mainz against the Emperor Frederick II and was defeated, badly wounded and made prisoner (1242) by Count von Jülich near Lechenich. Obtaining his freedom he renewed the conflict and crowned William of Holland at Aix-la-Chapelle as emperor (1248), upon whose death he crowned Richard of Cornwall as successor (1257). The erection of Cologne Cathedral was commenced (1248) by him. Consult Cardauns, 'Konrad von Hochstaden, Erzbischop von Köln' (Cologne 1880).

KONRAD VON MARBURG, mär'bŭrk, German Roman Catholic inquisitor: d. near Marburg, 30 July 1233. He belonged to the Dominican Order, and was appointed by Pope Gregory IX inquisitor of the monasteries of Germany. His fanatical and limitless persecution of heretics carried out indiscriminately along the Rhine, Thuringen and Hesse (1232) brought him into contests with the nobility and he was hailed before an Imperial Convention at Mainz and was released with censure. On his return journey he was assassinated near Marburg (1233). He was canonized as martyr by the Pope. Consult Henke, 'Konrad von Marburg' (Marburg 1861); Beck, 'Konrad von Marburg' (Breslau 1871); Hausrath, 'Konrad von Marburg' (in *Kleinen Schriften*, Leipzig 1883); Kaltner, 'Konrad von Marburg in die Inquisition in Deutschland' (Prague 1882).

KONRAD VON MEGENBERG, mā'gĕn-bĕrk, German author and naturalist: b. Bavaria, 1309; d. Regensburg, 1374. He translated among other numerous Latin works the book of John Holywood into German under the title of 'Sphära,' the first handbook on physics in Germany; it was printed in several editions by 1539. His 'Buch der Natur' was based on 'Liber de Naturis rerum' by Thomas of Cantimpré, and is a general and fairly systematic natural history; it is interesting as evidence of the knowledge of that day. The work was written between the years 1349–51 and appeared in quarto without mention of place or year, then it was published in Augsburg (1475). It has been published by Pfeiffer (Stuttgart 1861) and translated into modern High German by H. Schulz (Greifswald 1897).

KONRAD DER PFAFFE (the priest), German mediæval poet. He lived in the first half of the 12th century, belonged to the priesthood and was in the service of Heinrich the Proud. He composed the 'Rolandslied' (about 1135), a version of the French 'Chanson de Roland.' It was published by W. Grimm (Göttingen 1838) with preface on the history of the legend; also by Bartsch (Leipzig 1874). The 'Kaiserchronik' (1150) is said also to have emanated from his pen. Consult Wald, W., 'Ueber Konrad der Pfaffe, dem Dichter des deutschen Rolandslieds' (Halle 1879); Golther, 'Das Rolandslied des Pfaffen Konrad' (Munich 1887).

KONRAD VON WÜRZBURG, vürts'bŭrk, Middle High German epic and lyric poet: b. possibly at Würzburg about 1220; d. Basle, 31 Aug. 1287. For his time he had developed, through the study of the poems of Hartmann von Aue (q.v.) and Gottfried of Strassburg (q.v.), an extreme perfection of verse and style, and delighted in the play of synonyms, which contribute much to the beauty of his short poems, narratives and legends. His longer romances seem never to achieve the same degree of artistic unity as his shorter works. His earliest poems were the 'Nantes Tournament' and the 'Legend of Saint Nicholas' (which Bartsch published together with Konrad's later and longest work, 'Partenopier and Meliur,' Vienna 1870). After settling at Strassburg, where most of his literary life was spent, he wrote the poetic short stories 'Otto mit dem Bart,' 'Der Schwanritter,' 'Das Herzmäre,' the allegorical scene, 'Der Welt Lohn' (reprinted in Müller's 'German Classics,' New York 1900), and his best tale, 'Engelhart und Engeltraut' (published by Haupt, 1844, by Joseph, 1885). His huge epic 'Partenopier and Meliur' was written in 1277, after the French poem of Denis Piramus, of which Konrad had a translation made for his own use, and was followed by the incomplete 'Trojan War,' for which Konrad used as sources not only Benoit de Saint More, but also Statius and Ovid. Consult translations into Modern German in Reclam's 'Universal-bibliothek'; Janson, 'Studien über Konrad von Würzburg' (Marburg 1902); Rösler, Marg., 'Die Fassungen der Alexiuslegende' (Wien 1905).

JACOB WITTMER HARTMANN.

KONTI, kŏn'tē, **Isidore,** American sculptor: b. Vienna, Austria, 9 July 1862. He studied at the Imperial Academy, winning later a scholarship at the Meisterschule of Professor Kundmann (1886) affording him two years' study at Rome. In 1890 he came to America, worked on the Chicago Exposition buildings and has since created in New York numerous monumental works, such as 'West Indies' and 'East and North River' for the Dewey Arch; groups decorating the Temple of Music and 'The Despotic Age,' both at the Buffalo Pan-American Exposition esplanade (1901) and numerous other decorative groups for expositions; a group 'Progress' for the Manufacturers' building and two grand cascade fountains, 'Atlantic and Pacific Oceans' at the Saint Louis Exposition (1904) caused much favorable comment. Among his other numer-

ous creations are the McKinley Memorial, Philadelphia; a monument to Kit Carson and Lieutenant Beal at the National Museum, Washington; statues of Justinian and Alfred the Great for the Cleveland, Ohio, courthouse. He is a member of the council of the National Sculpture Society, of the Architectural League, New York Municipal Art Society, etc. His work is considered by contemporary experts as full of charm and refinement.

KOO-CHA-BEE, koo-chā'bē, a food prepared formerly by the Indians from the dried pupæ of certain flies of the family *Ephydridæ,* which form in the water of some of the lakes of northern California and Nevada, and drift ashore in vast numbers in midsummer. They are dried, ground into meal, and baked into edible cakes. A similar food is obtained in Mexico by gathering the eggs of another aquatic fly of the same family, and is called "ahuatle."

KOODOO, one of the largest species of antelope (*Strepsiceros kudu*), originally found throughout the entire southern and eastern parts of Africa but now nearly extinct in Cape Colony. The males bear great, rough, twisted horns nearly four feet long, and wound in a wide, open spiral of about two turns; the females are hornless. Both sexes have short hoofs, a fringe of rough hair along the middle of the back and a similar one on the throat; and are marked with narrow vertical stripes on the flanks, a spinal band and a chevron on the face, all of white. The koodoo lives in pairs or small parties in thick forests, especially on the rough hilly districts of Nyasaland. In many districts it has been decimated by the hide-hunters. A smaller species (*S. imberbis*) inhabits the low bushy countries of Somaliland and the Kilima Njaro region.

KOOKAS, koo'kąz, or **KUKAS,** a sect of fanatical Hindus in the Punjab, which originated after the annexation of that territory to British India (1849), in consequence of jealousy of the equal political rights granted to the Mohammedans of that region under British rule. They are a body of reformers of extreme views, and are hence regarded with as much hostility by orthodox Sikhs as they are by the Mohammedans, whose rights they are anxious to invade. The chief right conceded to the Mohammedans by the British government of India, and objected to by the Kookas, is that of killing cows, which are regarded as sacred animals in the Sikh religion; and it was mainly this practice that led to the consolidation of the most violent and fanatical adherents of the Sikh religion into a distinct sect. Their number has been variously estimated at from 50,000 to 800,000. In 1871 they were incited to attack and massacre the Mohammedan butchers who killed cows in different parts of the Punjab, but they were quickly suppressed by the British government.

KOOSOO, or **KOSIN,** a bitter drug prepared from the dried flowers of an Abyssinian plant (*Brayera anthelmintica*), which contains much tannin, and is used as a vermifuge.

KOOTENAY (koo'tē-nā) **RIVER,** a tributary of the Columbia, rising in British Columbia. It is 400 miles long. After flowing south into Montana and Idaho it again enters British Columbia. It was discovered by David Thompson in 1808.

KOPISCH, kō'pĭsh, **August,** German poet and painter: b. Breslau, 26 May 1799; d. Berlin, 3 Feb. 1853. He studied art in the Prague Academy (1815) and in Vienna. From 1819 to 1822 he continued painting, when an injury to his hand disabled him, and he started on travels through Italy, and in Rome and Naples applied himself to the study of local poetry and archæology. It was he who discovered the famous "Blue Grotto" or "Grotto of the Nymphs" on the island of Capri. He returned to Germany in 1828 and received the title of professor in Berlin. He removed to Potsdam in 1847 and occupied himself in writing an account of the royal castles there and in the neighborhood. Most of his pictures are mere sketches. His witty poems, clever stories and translations, including one of Dante, are all included in his 'Gesammelte Werke' (1856).

KOPITAR, kō'pē-tär, **Bartholomæus or Jernej,** Austrian philologist: b. Carniola, Austrian Hungary, 1780; d. 1844. He was educated at the German gymnasium of Laibach, and completed his studies at Vienna, where he became curator of the imperial library. In 1814 he set out on his travels through Europe, his tour embracing Germany, England, Italy and France, to which last country he went with the special mission of recovering the Slavic manuscripts carried off by the French in 1809. His contribution to philological science consists in pioneer work in Slavic grammar. His principal works are 'Grammatik der slawischen Sprache in Krain, Kärnten, und Steiermark' (1808); 'Glagolita Clozianus' (1836), and 'Hesychii Glossographi Discipulus Russus' (1839).

KOPP, kŏp, **Georg,** German cardinal and statesman: b. Duderstadt, 27 July 1837; d. 1914. He was the son of a poor weaver and attended the gymnasium at Hildesheim. In 1856 he became a telegraph operator in the employ of the Hanoverian government. From 1858 to 1861 he studied theology and in 1862 entered the priesthood. He rose rapidly in his profession and in 1872 was made vicar-general at Hildesheim and three years later bishop of Fulda. His reasonable ultramontanism was exercised in bringing about a better understanding between the German government and the papal curia. After his election to the House of Lords he obtained a mitigation of the harsh anti-Catholic provisions which characterized the May laws. In 1887, with the approval of the Prussian government, the Pope appointed him prince-bishop of Breslau, and in 1893 he was made cardinal.

KOPP, Joseph Eutychius, Swiss antiquarian: b. Beromünster, canton of Lucerne, 25 April 1793; d. Lucerne, 25 Oct. 1866. He studied theology and philology in Lucerne and Freiburg, and in 1819 was appointed professor of Greek in the lyceum of the former town. While serving in the legislative body of the republic, he was led as a "conservative Catholic" into such bitter controversy with the Jesuits, that in 1845 he was compelled to retire into private life and undertook a tour by way of Vienna to Rome, for the purpose of examining such archives as might throw light upon the history

of his native country. He was elected corresponding member of the academies of Berlin and Vienna. Self-taught as he was, he became the Niebuhr of Swiss history, and proved how her true annals had been obscured by such legends as those of William Tell, etc. Among his chief publications are 'Geschichte der Eidgenössischen Bünde' (1862); 'Geschichtsblätter aus des Schweiz' (1856); 'Dramatische Gedichte' (1866).

KÖPPEN, kĕp'pĕn, **Peter Ivanovitch,** Russian archæologist: b. Kharkov, Russia, 19 Feb. 1793; d. Karabagh, Crimea, 4 June 1864. He was educated at the University of Kharkov and subsequently traveled widely in order to procure historical and archæological material for his work. The outcome of his investigations, written in German, is comprised in the reports of the Academy of Saint Petersburg, but among other works of his are 'Kulturgeschichte Russlands' (1825) and his famous 'Ethnographical Map of European Russia' (1851).

KORAN, kō'rạn or kō-rān' (Ar. *quran, qoran,* reading, from *qara,* read; with the Arabic article, *Alkoran;* also called *Furkan,* salvation, *Al-Mushaf,* the volume, *Al-Kitab,* the book, *Al-Dhikr,* the reminder or the admonition), the sacred scripture of the Mohammedans, written in Arabic and professing to be the revelation of Allah (God) to Mohammed. It contains a code for the government of all Moslem transactions, and is accepted by true Mussulmans as uncreated and eternal. According to orthodox Mohammedan belief it was written from the beginning in golden rays on a magnificent tablet in heaven, and was communicated to Mohammed on the night of Al-Kadr, in the sacred month of Ramadan, by the angel Gabriel, chapter and verse as they stand, on parchment made of the skin of the ram which Abraham sacrificed instead of his son Isaac, in a volume ornamented with precious stones, gold and silver from paradise. Other traditions are different, one being that Mohammed was assisted in composing it by a Persian Jew and a Nestorian monk. Its revelations cover Mohammed's entire prophetic career, 610–32 A.D. It is the first work known in Arabian prose, its scattered discourses being preserved on stones, palm leaf ribs, leather, etc. Except in a few instances, Allah is the speaker. Mohammed named the book at the time of imparting the first revelations, and the name was retained for the collection when this was made in 633 by Zaid, son of Thabit, under direction of Abu-Bekr, father-in-law of the prophet. The authorized text, ever since accepted, was produced under the Caliph Othman, 650 A.D., from the fragments, originally thrown together without order, and afterward gathered in a volume with no attempt at arrangement, not long after Mohammed's death. In order to free the book from various readings, Othman commanded the destruction of all other copies, and in purity of text the Koran stands alone among religious scriptures. The chronological order has never been clearly determined, and many conjectural rearrangements and subdivisions have been made by Mohammedan and other scholars.

In size the Koran is nearly the same as the New Testament; it is divided into 114 suras or chapters, each beginning: "In the name of God"; the suras have various subdivisions. The Koran is dogmatic throughout; from beginning to end it is dominated by the positive keynote: "There is no doubt in this book." Its author was indebted to many other writers. Of the sacred writings of the Jews he directly cites only the Pentateuch and the Psalms; of the New Testament, with which internal evidence shows him to have been acquainted, he cites nothing; but besides the religious writings of the Jews and Christians he knew the systems of the Magians, the Sabians and other sects, from whom he derived many materials to be incorporated in a new religion for his own country, where numerous and diverse faiths already existed.

Mohammed lived much in solitude, meditating on his mission and his doctrine; he did not reject the teaching of any sect; asserted his desire to restore the purity of the true faith; announced as his fundamental doctrine the unity of God. This idea, together with conceptions of divine might, sovereignty, compassion and other attributes of Godhead, is all-pervading in the pages of the Koran; "God is God," it declares, "and Mohammed is his prophet." He felt that the unity of God had been the essential doctrine of all true religion, in which custom and ceremony were but accidents. "We make no difference," he says, "between that which God has taught us and that which Abraham, Isaac, Ishmael, the twelve tribes, Moses and Jesus have learned from the Lord." "God commands thee to receive the religion which he prescribed to Noah, which he has revealed unto thee, and which he imparted to Abraham, Moses, and Jesus." To Jesus Mohammed assigns a place in the seventh or highest heaven, in the immediate presence of God.

The Koran dwells much on the resurrection and the last judgment, setting these forth somewhat after the manner of the Apostle Paul: "When the trumpet sounds the second time, they shall rise quickly from the graves to appear before God." "A sound of the trumpet of judgment will assemble all men before my throne, and every one shall there receive the reward of his deeds." In its presentation of the last judgment the Koran resembles the teachings of the Jews and the Magians; in the passage of the narrow bridge to paradise—Al-Sirat, over the abyss of hell, finer than a hair, sharper than a razor; in the book wherein all the actions of men are set down, and the scale in which they are weighed. Quite Jewish and Magian also are the Mohammedan views of paradise. The doctrine of predestination as contained in the Koran was successfully employed by Mohammed to encourage his followers in the face of every trial and danger. Herein he probably availed himself of beliefs already widely held, especially among the Sabians, with their worship of intelligences supposed to reside in the heavenly bodies, controlling the lives of men and the course of events, and by the Magians, who held a system of dualism, the influence of these beliefs having exerted itself upon the Arabians.

In the matter of religious exercises Mohammed largely adopted such as he found, to those which were narrow or vague giving more of universality and precision. The Koran prescribes prayer, fasting, alms and the pilgrimage to Mecca; prayer embraces ablutions, purifica-

tions and all other exercises needful to preparation for it; to those who sought to be relieved from these observances Mohammed replied, «Religion without prayer is nothing»; prayer he calls «the key to paradise.» Surpassing the severity of the rabbis, he prescribed prayer five times a day, with the face of the suppliant turned toward Mecca. To give alms was always an Arabian practice, but the Koran makes it obligatory. Concerning polygamy, divorce, inheritance, etc., it follows the law of Moses and the decisions of the rabbis, adapting them to the prejudices and customs of the prophet's people; it forbids few of the old practices save idolatry; «God,» it says, «intended that his religion should be easy, else, as he well knew, you would only become hypocrites.»

Although the Koran is written in prose, the different parts of a sentence end in rhymes, and there is marked diversity of style, yet withal an impressive unity, characterized by a free and forcible eloquence unequaled in any other Arabic writings. The earlier utterances of the prophet seem often to be outbursts of unbridled imagination, though still the solemn words of prophetic earnestness proclaiming God with power to reach and sway the hearts of men. In later portions of the book the tone takes more of calmness; imagination is subdued; the author dictates extended passages to be taken down by his hearers. The highest elevations are where he speaks of the greatness of God and describes the last judgment, the pleasures of paradise and the pains of hell.

The moral precepts of the Koran exhibit a lofty feeling of humanity and a profound sense of ethical law reduced to most practical forms. They inculcate all the noblest virtues and pieties — obedience to divine commandments, charity, humility, mildness, temperance, toleration, and the strong virtues of courage, faith and justice. To death in the cause of religion it ascribes a peculiar merit. The influence of this book through many centuries and among many peoples has been vast, and it still controls the lives of a great portion of the human race. «From the Atlantic to the Ganges,» says Gibbon, «the Koran is acknowledged as the fundamental code, not only of theology, but of civil and criminal jurisprudence; and the laws which regulate the actions and the property of mankind are guarded by the infallible and immutable sanction of the will of God.» The divinity and authority of the Koran have at times been assailed among Mohammedans themselves. The first serious heresy, about 740, was suppressed by the execution of its chief author, but appeared again in the next century, and was not finally crushed out until 842, when Harun II prohibited all discussion regarding the character of the Koran, which has since been everywhere held by Mohammedans in admiration as the great Arabian classic, and in reverence as the book of religious authority. Once each day it is read through in the mosques of the Sultan and in the adjoining chapels. By the faithful it is never carried below the girdle; not without their own purification may they even touch it; and on walls, doors, banners, etc., its texts are frequently written.

Commentaries on the Koran are almost innumerable. The library of Tripoli, in Syria, is said to have contained no less than 20,000 of them. Many editions have been published in different countries. For English readers that of Sale (1734), with its comprehensive introduction, covering all the important aspects of Mohammedanism, is still of prime value. The translation of E. H. Palmer (1880) is authoritative, as is also that of Rodwell (2d ed., 1876). Several versions in German have appeared in which it was attempted to reproduce the rhyming style of the original: J. von Hammer's (1811), A. Sprenger's (1861–65), Fr. Rückert's (1888), and M. Klaproth's (1890). Other editions which have their special values are Hinkelmann's (1694), Maracci's (1698), and Flügel's (1883). Consult Sprenger, 'Leben und Lehre des Mohammed' (1865); Deutsch, 'Islam'; Dozy, 'L'Histoire d'Islamisme'; Muir, 'Life of Mahomet and History of Islam'; Lane, 'Selections from the Koran'; Johnson, 'Oriental Religions: Persia,' sec. «Islam»; Conway, 'The Sacred Anthology' (for many good extracts from the Koran); Hirschfield, 'Beiträge zur Erklärung des Korans' (Leipzig 1886); id., 'New Researches into the Composition and Exegesis of the Koran' (Eng. trans., London 1902); Murdock, 'Selections from the Qorun with Introductions and Explanatory Notes' (London 1902); Nöldeke, 'Geschichte des Korans' (Göttingen 1860; 2d ed., by F. Schwally, Vol. I, 'Ueber den Ursprung des Qorans,' Leipzig 1909); Grimme, 'Mohammed'; 'Einleitung in den Koran'; 'System der koranischen Theologie' (1895); Tisdale, 'Sources of the Qur'an' (London 1905). See also MOHAMMED; MOHAMMEDANISM, and consult the lives of Mohammed and other works referred to under these articles.

KORAS. See HOTTENTOTS.

KORCE, or **KORITSA,** also **KORTCHA, GORITZA,** a new and probably temporary republic situated in southeastern Albania. This state was created in the late autumn of 1916 by a French cavalry colonel. The bulk of Albania was at that time held by the Austrians. In the south the Italians held Avlona, on the Adriatic, but between them and the Allied Salonica forces was a solid wedge of Austrians and King Constantine's unfriendly Greeks. In the autumn General Sarrail pushed forward in a northwesterly direction, and occupied Koritsa and the region near Lake Malik. This was the first time that French troops from Salonica had found themselves in Albanian territory and the colonel in command was faced with the problem of setting up a civil administration. Northeast lay Serbia and southeast lay Greece, but Koritsa was neither. According to the Treaty of Bucharest, the only legal instrument recognized by the Allies, it was part of Albania. The colonel solved the difficulty by proclaiming Koritsa, and the *caza,* or administrative district of which it is the capital, to be an autonomous Albanian republic under the protection of the Allies. General Sarrail accepted the situation, and the republic remained. A council of 12 elders, mixed Christian and Mohammedan, was set up as the governing body; Essad Pasha uttered a blessing in Albanian, a flag was devised, a postal system instituted and stamps issued. Meantime, up to the summer of 1918, owing to various advances of the Allies, the republic had gained several extensions of territory.

KORDOFAN, kŏr-dō-fän', Africa, a province of Egyptian Sudan, between the White Nile and Darfur; area, about 130,000 square miles. The principal articles of export are gum, hides and senna leaves, all monopolized by the government as most lucrative; ivory, cattle, tamarinds, ostrich eggs and feathers, gold, salt, slaves, etc.; the imports spices, sugar, coffee, sulphur, rice, soap, cotton and linen cloth, etc. From 1821 onward Kordofan was subject to the viceroy of Egypt, the country having been subdued by Mehemet Ali. In 1883 it took part in the successful Mahdist revolt, but was regained for Great Britain and Egypt in 1898. Pop. about 300,000.

KORDYAN. The revolution of 1830–31 was a prolific source for Polish literary works. Julius Stowacki seized upon the historic incident of the attempted assassination of Tsar Nicholas, who came to Warsaw to be crowned king of Poland, to create a Polish hero for the troubled times. Imitating Byron's ironical attitude, Stowacki in the introduction to his poem treats the contemporary actors in the revolution rather flippantly. Then, representing his own early excesses and lack of faith and the change of mind which he experienced in Switzerland, he makes the hero, Kordyan, look with contempt upon his aristocratic habits and abandon his life of a lovelace, and lets him return to the sands of Mazovia, there by an inner transformation to do good to his native country. Kordyan attends a meeting of revolutionists in Saint John's Church in Warsaw, where he makes an impassioned appeal, one that has become a classic passage in Polish literature, that Nicholas be killed. But the only scene which by modern Polish critics is considered as devoid of romantic exaggeration is where Kordyan, under the influence of the mood induced by the tragic situation, is trying to combat his own hallucination and terror. This, no doubt, is a correct representation of the poet's own struggle with his feverish imagination, caused by his abhorrence of war, just as he became conscious of the moral necessity of joining the ranks of the revolutionists. A good discussion of the poem may be found in G. Sarrazin, 'Les grands poètes romantiques de la Pologne' (Paris 1906, pp. 221–225).

LEO WIENER.

KOREA, kō-rē'ą, **COREA**, or **CHOSEN**, since 29 Aug. 1910, an integral part of the empire of Japan. The name means Morning Splendor. By the census of 1910 it contains 2,274,263 native dwellings and a population of 13,115,449, the females numbering 6,169,610 and the males 6,945,539, the discrepancy in sex numbers arising from the neglect of female infants, 146,147 Japanese, 1,818 Chinese and 889 other foreigners. It comprises a strip of coast and a peninsula projecting southward from Manchuria, divided from it by the great valleys of Yalu or Amnok northwest and the Tuman northeast, both rising in the colossal peak of Paik-tu (White Head), 8,300 feet high. The Japan Sea divides it from Japan, whose southernmost island (Kiushu) approaches its southern tip within 100 miles, separated by Korea Strait with large islands midway; to the west, Korea Bay and the Yellow Sea, marked off by Shantung Peninsula, divide it from China. A dense archipelago fringes it south and west. Its parallels are from 33° 12′ to 43° 2′ N., or about the same as from Concord, N. H., to Wilmington, N. C., and average much south of Italy; its meridians, 124° 13′ to 130° 54′ E. It is about 600 miles long by 135 broad; area, 84,738 square miles.

Korea is traversed north to south by a mountain backbone of striking individuality: a perpetual zigzag, skirting the eastern shore with slender coast-lands, in a steep solid wall unbroken for hundreds of miles save by Yung-hing or Broughton's Bay at the northern neck. In the north it has summits 4,000 to 8,000 feet high, and at Cape Pelissier, about lat. 37°, culminates in Mount Popoff (4,800 feet); thence the main chain turns southwest and ends in the extinct volcano of Mount Auckland (6,700 feet), on Quelpaert Island, while to the east it throws out low hills and plateaus. The islands of the southern archipelago, verdant rocks worn into the semblance of fantastic castellated ruins, are the ends of its spurs. On the eastern side the ridge is timbered to the summit; on the west almost treeless, and seamed with deep ravines shallowing out into broad fertile plains, occupying most of Korea. On the east below the boundary there is but one river of any size, the Nak-tong along the southeastern uplands, and almost no islands; the west has 10 considerable streams, and the coast is thickly notched with harbors and fringed with fertile islets.

The chief rivers are, from the north: The great Yalu or Amnok, a mile wide and rising 40 feet in flood, navigable 30 miles for seagoing junks, and 175 for boats, to Wi-wön, and now crossed by a superb steel highway bridge uniting Korea with the trunk lines through Russia to Europe. Opposite is the Tuman. The Taidong or Ta-tong, navigable for boats 75 miles to Ping-yang. The Han ("*the* river"), rises on the western slopes of the eastern ridge but 30 miles from the Japan Sea, draining nearly the whole breadth of the peninsula with two main arms, and flowing into a bay of the Yellow Sea among islands. About 30 miles up lies Keijo, or Seoul, the capital, and a line of small steamers runs between it and Chemulpo, on Imperatrice Gulf as much farther south; boats ascend nearly 100 miles more. The Nak-tong (above) empties into Korea Strait near Fusan, and is navigable 140 miles for vessels drawing four and one-half feet. The best harbors are Gen-san and Port Lazareff, on Broughton's Bay; the best on the south coast is Fusan on Korea Strait, now finely equipped with docks for large steamers. The tides on the west and south are very high and rapid, often leaving vessels stranded on mud banks.

The climate is much like that of the eastern coast of America in the same latitudes; the north and centre have very hot summers and severe winters; the south is like the Carolinas, and tempered by the ocean breezes. The Han is frozen in winter so that at Seoul, where it is 400 yards wide, it is available for cart traffic three months of the year, from December to February. The rainfall averages 36 inches, 22 in the crop season. A fall of only 4.1 inches in 1901 created a famine.

Flora and Fauna.— There is a great variety of excellent hardwood timber on the east slopes

and the northern mountains; in the west it is scarce and sparingly used; lack of coal has caused much wasteful denudation in other parts. The one surpassing animal of the native fauna is the man-eating tiger, who fills the native proverbs and literature, depopulates whole villages and even besieges houses for days, sometimes leaping on the thatched roof and tearing his way down through. Besides him there are leopards, tiger-cats and foxes; deer, beaver, badgers, otters, martens, etc., and a great variety of birds.

Products.— The great native crop is ginseng, which grows wild in the distant mountains, and is extensively cultivated about Sunto; it is a government monopoly, and despite much smuggling yields a large part of the state revenue. Among other products are rice, wheat, millet, sesame, Indian corn, beans, cotton, hemp and perilla (for oil and pigment). The domestic animals are few. The cattle are excellent, the bull being the usual beast of burden; the ponies very small but hardy, fowls good, pigs inferior. Iron ores of excellent quality are mined, and there are copper mines in several places. In 1910 the value of gold exported was $3,053,038; the silver output is very small. Three-fourths of the trade is with Japan, and over four-fifths of the remainder with China.

Government.— Formerly a hereditary absolute monarchy: till 1895 tributary to and receiving investiture from China, and like it in administrative forms, with officials appointed by examination in the classics. On the declaration of independence (see *History*), the entire system was abolished, as well as the privileges of the aristocracy, and a cabinet of 10 ministers in charge of different departments formed, who with five councillors formed a grand council of state to lay measures before the emperor. Till 1896 the country was divided into eight *do* or provinces; it was then redivided into 13, including a metropolitan province around the capital. There are now 12 urban prefectures, 317 local districts, 4,351 villages and 12 treaty ports.

Social Conditions and Education.— The usual dwellings are one-storied. Fire is built at one end for the cooking and the heat is utilized by being carried along through the house by means of a system of flues, the chimney being low down at the other end. Smoke is seen hanging at most Korean towns in the morning and evening, and the conditions of life for the masses, as in China, are hard and squalid; but actual distress is rare and beggars are few. Caste till recently was iron-bound, and no offices of even local importance could be held by other than nobles, who are distinguished by colored clothing and horsehair hats. Women are secluded; concubinage is allowed, but only one legal wife at a time. The immemorial system of education was almost wholly in Chinese, which contained the only written memorials needing it, and was of Chinese classics. The general course of culture, philosophy and the creed of the Korean educated gentleman was nearly the same in Korea as in China. In the reconstruction of the national education by the Japanese there were, in 1914, 366 public or government schools attended by 50,000 children, and 814 private (mostly missionary) schools for Koreans, attended by 22,273 pupils, taught by 311 Japanese and 695 Korean teachers, female scholars numbering one-fifteenth of the whole. Under government auspices are 60 industrial, 14 agricultural and 2 commercial schools. There are also 149 schools with 17,264 pupils, with teachers for Japanese.

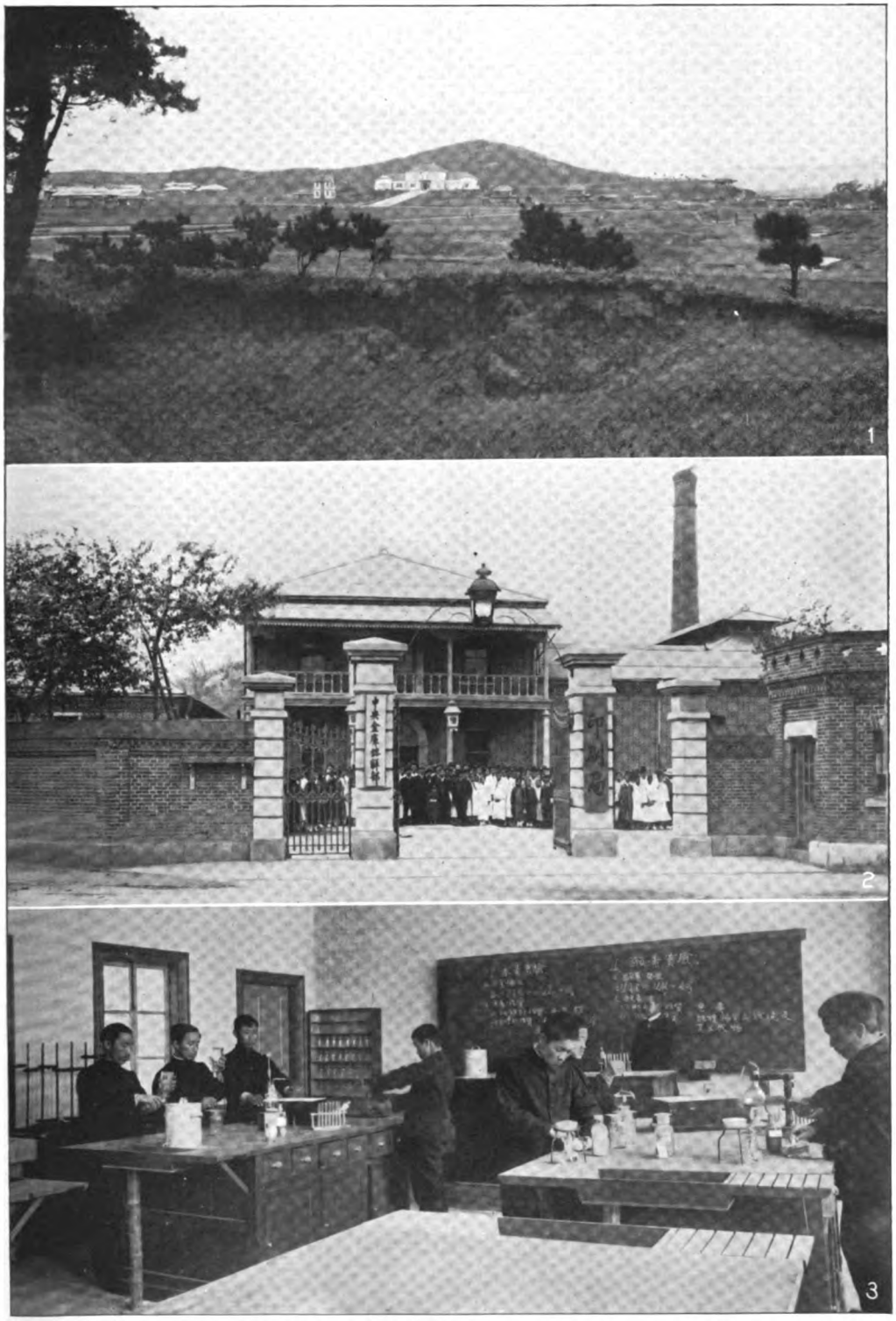
Religion.— See *History*. There are now, by the Japanese official report of 1911, over 370,000 native Christians. The popular religion is the degraded Shamanism (q.v.); the higher classes are Confucians; the anciently all-powerful Buddhism, crushed by the revolution of 1392, is slight and uninfluential, with a few ignorant monks.

Population.— The people are a mixed race of disputed elements, apparently Mongoloid and Ain with Manchu and Malayan infusions.

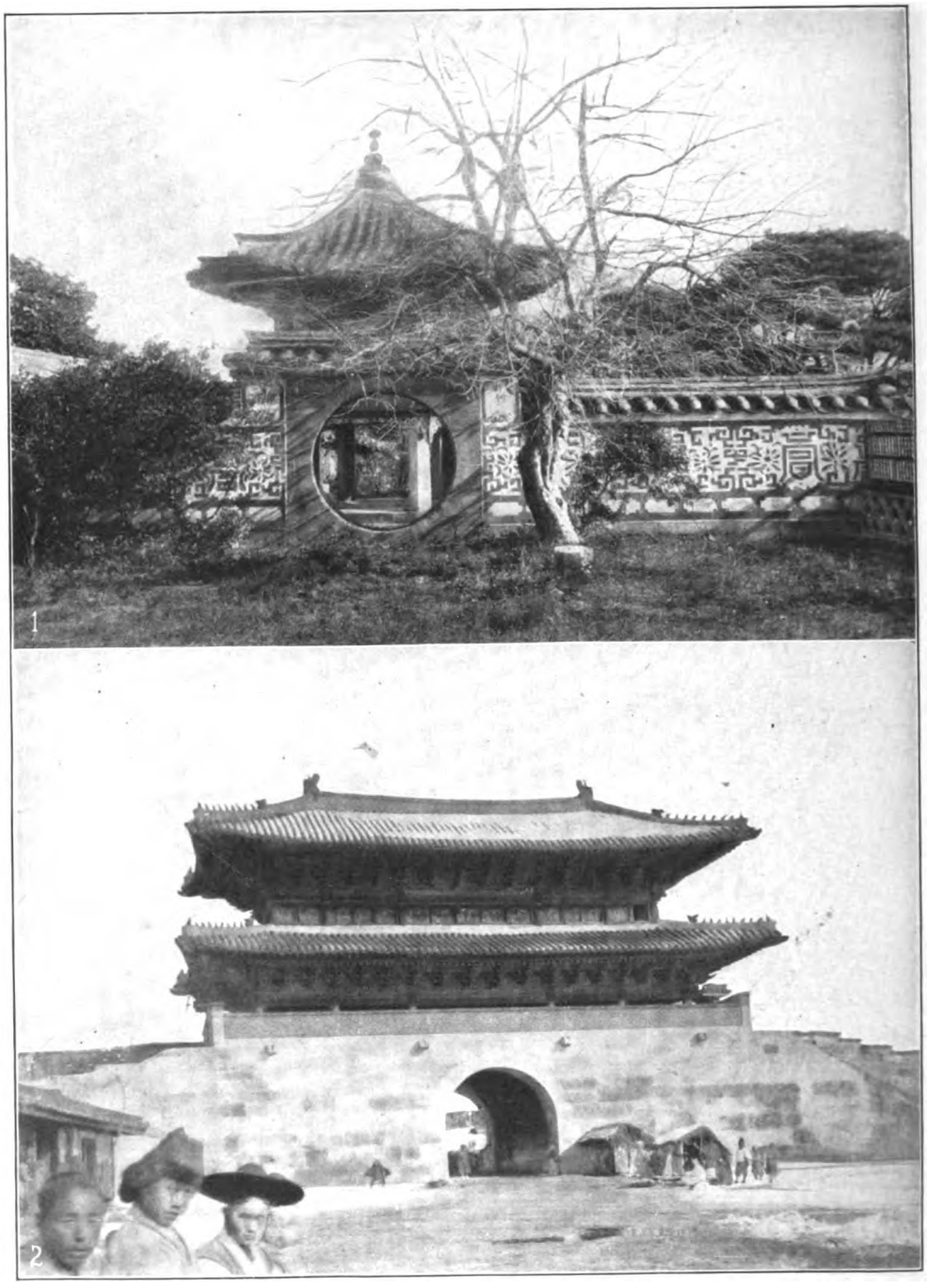
The chief cities are Seoul (Han-yang), the capital, estimated at over 200,000; Pingyang, perhaps 40,000, and Kai-seng. A trolley line nine miles long, built 1899, is operated in Seoul by Americans, and a trunk-line of railways with branches traversing the peninsula from Wiju on the Yalu River to Fusan. The total mileage of railroads open in 1914 was 934.7, and of light railways and trams, 109.8 miles.

History.— The traditional founder of Korean nationality is the Chinese noble Ki-ja, who left China with 5,000 followers 1122 B.C., and established a kingdom with capital at Pjeng-yang. The first authentic history is the annexation to China 108 B.C. A century or so later it split into three princedoms, of which, about 960, Korai (Kao-li) came to the front, probably from borrowing the higher Chinese civilization. It recast the administration upon the Chinese model, introduced Chinese methods and arts, and initiated several centuries of brilliant progress and prosperity, enriched by art and literature. Buddhism was the paramount religion, and developed a powerful and rigid ecclesiastical hierarchy. As a result, a protestant movement took place, and in 1392 a revolution resulted in the fall of Buddhism and the exculpation of Confucianism. The capital (*seoul*) was fixed at Han-yang. When the Manchu power began to rise in the 15th century, China, to protect herself against its ravages, desolated a strip of fertile territory many thousand square miles in extent, then or early in the 17th century destroying four cities and many villages and removing 300,000 inhabitants; and down to 1875 this zone of 60 miles wide by 300 long was kept as a permanent buffer between China and Korea. During the rise of the Japanese shogunate out of the 16th century anarchy, Hideyoshi, as a preliminary to invading China, sent an army into Korea, rapidly overrunning it. But Korea is like Spain, easy to conquer and impossible to hold; and the stolid resistance of the natives, with the Chinese armies, gradually forced the Japanese out of the peninsula six years later, retaining Fusan on the southeast coast as a trading station. Thirty years later the Manchus, previous to their conquest of China, invaded it and exacted a tribute, which was continued to the Manchu dynasty in China; in 1653 it was reduced to a third, and for generations down to 1894, when it was finally abolished, had been only nominal, as an acknowl-

KOREA



1 Experimental Farm and School, in Korea
2 Bureau of Printing, Seoul, Korea
3 Chemical Laboratory, Government School, Seoul, Korea



1 Round Gate, on the Palace Grounds, Seoul

2 Big East Gate, Seoul

edgment of Chinese supremacy and a trading license. But the Chinese wisely attempted no permanent occupation.

Korea had as intense a determination to seclude herself from foreign influences as ancient Egypt, and practically the first knowledge obtained of it by modern Europe was through the shipwreck of some Dutch on the coast in 1653, though the Jesuit missionary Cespedes had entered it in 1594. In 1784 new missionaries came and planted Christianity in the peninsula, despite steady persecution; in 1835 the French missionaries reinforced them. But in 1864 came a fiercer blast. The then king died childless, and his oldest widow set aside the natural successor, her nephew, and nominated Yi-Hevi, the present king — the 12-year-old son of a royal prince, whom she made regent. The latter was a savage reactionist, and let loose fire and blood to extirpate the foreigners, rigidly excluding all new ones. A futile French expedition was sent against him in 1866; the same year a stranded American schooner, the *General Sherman*, was burned and her crew murdered in sight of Pingyang. An American expedition sent in 1871 had slight success. Meantime several nations were attempting to force Korea into treaties of commerce and gain trading privileges, but Japan was the first, in 1876, to succeed, having the ports of Gensan and Fusan opened in 1876 and Chemulpo in 1880. Meantime the "neutral strip," for many years a nest of brigands and pirates, was abolished by Li Hung Chang in 1875. In 1882 Commodore Shufeldt negotiated a treaty of friendship between the United States and Korea, and thence on, other nations were rapidly admitted — Great Britain and Germany in 1883, Italy and Russia in 1884, France in 1886, Austria in 1892 and China in 1897.

The flood of new ideas and habits aggravated the conflict between the progressives and the reactionaries, in which the former won, and Korean embassies began to visit other countries — Japan in 1880, the United States in 1883. The nativists raised an insurrection in 1884. The greatest breach with the past, however, was the result of the Chino-Japanese War of 1894–95, one of the pretexts of which was the action of China in reasserting her ancient suzerainty over Korea. It was at Pingyang that the first heavy defeat was inflicted on the Chinese, and off the Yalu River that the Chinese fleet was destroyed. On 8 Jan. 1895 the king of Korea proclaimed its independence, and the Chinese gate near Seoul was publicly destroyed with impressive ceremonies. In 1897 the king proclaimed the country an empire, named it Dai Han and took the title of emperor. Under the Treaty of Shimonoseki, Korea became a "sphere of influence" for the Japanese, whose struggle against Russian encroachments culminated in the war of 1904–05. (See MANCHURIA). By the Treaty of Portsmouth (q.v.) Japan's preponderating interests in Korea were acknowledged, and a Japanese protectorate was established in November 1905. On 18 July 1907 the emperor abdicated in favor of the crown prince, but Japan's protectorate continued until, by virtue of a treaty made with the Korean emperor, the sovereignty and territory of Korea passed to Japan. Following this act, the royal family of Korea received "such titles, dignities and honors as are appropriate to their respective ranks and sufficient grants to be made for the maintenance of such titles, dignities and honors." Relatives, meritorious Koreans and men of rank, old persons, virtuous widows, etc., to the number of 87,643, also received monetary rewards. Since the Japanese occupation, new public buildings, roads, a national coinage, survey, systems of banking, postal communication, taxation, education, encouragement of agriculture, commerce, fisheries, etc., have given Korea most of the features of a modern state. Consult Annual Report of Reforms and Progress in Chosen, for 1913–14.

As Korea passes out of existence as an independent state, and her people increasingly conform, both in outward circumstances and inward characteristics, to modern conditions and requirements, it may be well to inquire as to Korea's place in history, to note her contributions to civilization and to survey the progress made in the 20th century. The Koreans rebuilt Kija's (Kitse's) tomb at Pingyang, which was injured during the Chino-Japanese War of 1894, because they consider this historical character as the founder of their social order in 1122 B.C. Their literature contains many references to him as their national hero, while popular and especially local tradition, in the north especially, concerning him is abundant and voluble. To him is credited the name of the country, Chosen, or Morning Splendor, which is now the modern, as it was the ancient, name. Critical scholars, however, incline rather to the belief that it was from some centuries later reading, in Chinese annals of the story of Kija, that the Koreans became acquainted with the name and work of this ancient patriarch. In any event, only a small part of modern Korea lay within the area of the Kija domain, which came to an end in 203 B.C. In 108 B.C. Korea formed a part of the Chinese Empire under the Han dynasty, but the people revolted in 30 B.C. paying tribute to China, however, until 9 A.D. The early history of Korea resembles that of Britain, in which, after the Romans, men of three ethnic stocks contended for centuries together, Welsh, Scottish, English. Three states arose (*Chinese*, Kaokuli, Sinlo and Petsi; *Japanese* Korai, Shinra and Pechi) and for 10 centuries border wars, with alternate invasions and succor from China and the mixed people of the eastern islands, who, later known as Japanese, were gradually attaining political unity. There were long intervals of peace, also, during which more or less trade and communication with China and Japan are noted in the annals of the three countries and by comparison many of the events and dates, asserted to be historical, may be verified. In the modern reconstruction of the state under Japanese auspices, very interesting antiquities, in the form of mortuary art and literary relics, have been recovered and scrupulously cared for. Although Korea's interior history is interesting, yet the story of progress and civilization is best expressed in that of Buddhism which, introduced into the peninsula in the 4th century, was destined to enjoy a thousand years of successful propaganda. Its career of material and spiritual splendor

lends strong color to the idea held by scholars that the story of Korea and its civilization during the last 500 years forms a chapter of decay rather than of the progress, the Koreans from about 1500 A.D. having steadily degenerated. However this may be, it is certain that in the train of the faith, imported from India and China and Tibet, came elements that fertilized the Korean imagination and supplied the spiritual forces in which early Confucianism was lacking. Art, literature, folklore, noble monuments in sculpture and architecture, splendid temples and monasteries followed with the coming or as the result of this vast synthesis of Asiatic beliefs, forces, intellectual achievements, science and craftsmanship, called Buddhism. Not content with the spiritual conquest of the peninsula, the Buddhist missionary activities overflowed into the islands of the Rising Sun. Japan received at the hands of Buddhist teachers those principia, of art, literature and civilization which link her history with the great world of the West, besides thousands of Korean colonists, many of them skilled artists and craftsmen. This explains why, until lately, the Koreans were apt to look on themselves as vastly superior and the Japanese as semi-savages. The political outcome of the factors of evolution in these early centuries was the strong state of Silla (Shinra), whose people, beside having the richest soil, were nearest to China, had first received Buddhism, traded with the Arabs and sent their students to Nankin in China for study. One of their literary statesmen invented what (except the Sanskrit letters imported from India) was a new thing in Chinese Asia — a true alphabet, of 14 consonants and 11 vowels (the en-mun), classified according to the organs of speech. This system, however, was not perfected and put into general practice until the 15th century, nor ever made nation-wide until the Christian missionaries made reading democratic and popular. With Confucianism the system was never given opportunity to develop. In the 10th century Shinra's rule extended over the entire peninsula, but in the north the hardy men of Korai were uniting under Wang-gon (Chinese, Wu Wang) who made himself master of the rival states and unified the peninsula, making his capital at Song-do (Sunto). All historians agree that luxury was the chief cause of the downfall of Silla. Buddhism was now endowed as the state religion and the country was divided for administrative purposes into eight districts based on the river basins, provinces and capitals having the first syllable of their names in common. The evolution of government was away from feudal forms to centralized monarchy, after the Chinese model. The mariner's compass is recorded as used on Chinese ships voyaging to Korea, 1122 A.D. The Mongol invasions of the 12th and 13th centuries made apparently little impression on the country. In 1392, a new dynasty coming into power banned Buddhism. The first half of the 15th century was a period of inventions, the improvement of the alphabet (en-mun), printing by means of movable or «living» metal types, notable literary productions, the casting of great bells and improvements on agriculture being among these. In politics, political parties arose. Yet while both China and Japan felt, for evil and good, the contact of Europe, Korea became, in spirit and fact, more and more a hermit kingdom, foreign trade being tabooed and the educated classes shrivelling into self-conceit and the pride of ignorance. The invasions of the Japanese, 1592–97, called forth the inventive powers of the Koreans. Admiral Yang invented an ironclad, propelled by oars, which destroyed the enemy's fleets. The use of bomb shells («heaven shaking thunder») by the Koreans hampered the enemy's siege operations. The Manchus in 1627, the entrance of Roman Christianity in 1777, through books, and by French priests (in 1836), and of Reformed Christianity in 1884, with the treaties made since 1876 and the presence of large armies on her soil during the Chino-Japanese War of 1894, form the nuclei around which recent events may be grouped. Repeated endeavors, made by Japan during 30 years, to have the Korean dynasty and nobility reform their corrupt administration and create a modern state were made, during which the Japanese legation was twice attacked and burned and the Japanese driven from Seoul. Plot, counterplot, insurrection and foreign complications followed in monotonous repetition. Japan, to maintain the independence of Korea as necessary to her own existence, was compelled to engage in two foreign wars — with China and with Russia. Finding Korea never free from anarchy and incapable of governing herself, Japan felt compelled to assume that responsibility of a protectorate. It had been made evident by the logic of events, that the interests of Japan and Korea were identical — a view that was recognized almost immediately and unanimously in the West, all governments promptly withdrawing their legations from Seoul. Japan, sending her ablest statesman, Prince Ito, as resident-general, assumed the control of Korea's foreign affairs and during three years attempted internal reforms according to an agreement signed 24 July 1907. The Korean soldiery resisted the attempts to disarm them and in the two years of intermittent fighting 21,000 natives and 1,300 Japanese lost their lives. At Harbin, 26 Oct. 1909, Prince Ito, and shortly afterward, in California, Mr. D. W. Stevens, an American adviser, were shot to death by Korean assassins. To this date, 1910, Japan's outlay of money for railways, military and reforms in Korea had amounted to $72,000,000. Driven by necessity to the final step of annexation, which was taken 22 Aug. 1910, the Mikado declared that «all Koreans under his sway shall enjoy growing prosperity and welfare and be assured of repose and security,» while he called upon «all his officials and authorities to fulfil their duties in appreciation of his will.» How thoroughly Japan has carried out her purpose of reconstruction, in every department of human activity and the opening to the Koreans of all avenues to prosperity — the purpose being to give, in time, to Koreans the same privileges as Japanese subjects enjoy — may be seen in the annual reports, issued by the resident-general from 1908 to 1914 and copiously illustrated. In Count S. Terauchi, born in Choshi in 1852, the year of Commodore Perry's arrival, a worthy successor of versatile ability and indomitable energy was

found to Prince Ito. The first work was in sanitation and cleanliness. Smallpox, always epidemic (exactly as in old Japan), and formerly an almost annual visitant, causing at times nearly a thousand deaths in a day in Seoul alone, is now only sporadic. In one year 5,400,000 Koreans were compelled to receive vaccination. Cholera, typhoid fever, dysentery, diphtheria were also chronic visitants — often brought from China — and have almost ceased to be epidemics. Housecleaning twice a year is now compulsory. In 1913, with cholera almost unknown, the cases and deaths from all epidemic diseases were 4,068 and 805, respectively. In 1913, 384,006 patients were treated in the government charity hospitals and 2,408,126 visits made to patients. Silk raising is now a native industry, over 13,000,000 mulberry seedlings furnished the food material for the worms. The annual rice, wheat and barley crops have been doubled. In 1915, a great national exhibition was held in Seoul which showed that in every one of the 13 divisions of Korea modern methods in sanitation, agriculture, education and industry were in operation or had made beginnings. The revenue for 1914–15 was 59,412,966 yen. The total trade for 1914 was 97,620,248 yen. In March 1913, 49,328 native pupils attended the government schools and 2,190 the private schools, besides 28,173 Japanese were under instruction; the official expenditures being 1,141,952 yen. The work of railways, road-making, harbor improvements and survey, sanitation, silk culture, agricultural development, banking (one family in 600 having a savings account) and finance, and the general prosperity and uplift of the people, as shown in annual publications both official and private, are remarkable. Japan, as a devotee of science and a pastmaster in the art of rejuvenating nations, profits by her own experience in renewing her own body politic, after the long marasmus and anæmia of centuries brought on in all three countries under Chinese culture by hermitage and bad government. Hence the vigor and thoroughness with Korea — apart from any question of political morality — for Japan is scarcely less severe with Korea than she has been with herself. Great as is the work done for the Koreans, their contact with the world, by changing the status from one of hermitage and degeneration to one of brotherhood and progress, bids fair to produce even greater ultimate results for the good of themselves and the race.

Language.— Korea since early times has employed two languages: Chinese for writings and native Korean for speech, Chinese if spoken being an acquirement like French in America. The literature in Chinese is sometimes translated into Korean, however; and the work of the missionaries in making general use of the en-mun or native script has reacted to the great appreciation by the Koreans of their own language. The reforms are proclaimed in the vernacular.

Korean is of a not extreme agglutinative type, belonging to the polysyllabic branch of the Mongol-Tartar languages like Japanese, and unlike the monosyllabic Chinese; it is structurally unrelated to the latter, though it has very many Chinese loan-words, pronounced after its own phonology. Its resemblances to Japanese are far closer: mutual translations word for word, and even particle for particle, are quite feasible. The particles and grammatical terminations in both represent punctuation, emphasis and inflection of nouns and verbs. The honorific vocabulary — almost a complete ceremonial language even in construction, to express relations between superiors and inferiors and equals — is common to both. The differences are mainly euphonic: Korean vowels are heavily assimilated to those which follow, the syllables need not end with a vowel, and the spelling is as irregular as English, none of which is true of Japanese.

The grammar of Korean is extremely flexible and pregnant; like Chinese, the roots are invariable. There are no inflectional forms for number, person or case, or conjunction of verbs, and no form for gender; all are indicated by particles without meaning, or whose meaning has been lost, affixed to the stem, and varying with its terminal letter, as consonant, vowel or liquid. There are no pronouns of the first and second person; the third, with relational particles, serving for both. Development has expended itself on the verbs, which are marvels of varied, flexible and ingenious expressiveness. Many words not primarily verbs can be turned into them (as in English), and these with the true verbs constitute 20 per cent of the entire vocabulary. The grammatical forms of the verb are said to average 300. Adjectives and adverbs are not distinguished from the verbs, and the prepositions are verb forms. All conditions expressed by inflections in Western languages — present, continuing, past, unfinished or completed, optative, subjunctive, potential, interrogative, participial, etc.— exist in Korean, and a vast number of others expressed by us in long sentences. Some verbs have no passive, but all have a negative voice. There is no number; the three persons in every variant are expressed by courtesy forms — one to or of superiors, one for equals, one for inferiors or of things. The syntax is positional, as with Chinese. The object precedes the verb or other governing word, the prepositions are postpositions, the adjective precedes the noun it qualifies and the adverb its verb or adjective (as in English). A dependent clause precedes its principal.

Korean has an alphabet of 25 letters, 14 consonants and 11 vowels, a very simple and scientific one, analyzed by organs of speech. The vowels are a, ya, ŭ, yŭ, o, yo, u, yu, i, eu, ă; with the diphthongs è, é, e'. The consonants are — labials, p, ph, m; dentals, t, th, n, l; palatals, ch, chh, s; gutturals, k, kh; laryngeals, (?) h, ng final. There are no letters f, v, w, b, d, g, j or z, though (except the first, which is replaced by p) they exist in speech. There is but one character for l and r, and neither of them can begin a word, their place being taken by n. The characters — women and children's only, the true "learned" characters being Chinese — are of an extreme simplicity, contrasting strongly with the complex Chinese; and there is a cursive form. This alphabet is called *en-mun*, "the vulgar"; and there is a system called *nido*, in which the letters are grouped in the 199 possible combinations and learned by rote. The writing is in syllables, in columns from right to left, as with Chinese. There is already a very respectable volume of Christian literature expressed in *en-mun* and the news-

papers of the capital and large cities are printed in this character.

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WILLIAM ELLIOT GRIFFIS,
Author of 'Corea, the Hermit Nation,' etc.

KORN, kôrn, **Arthur,** German physicist: b. Breslau, 20 May 1870. He studied at the Breslau and Berlin gymnasiums and, consecutively, at the universities of Freiburg, Leipzig (1886), Paris (1890) and Berlin (1891). He was given degrees and (1890) became private teacher (*docent*) of physics in Munich (1895), then assistant professor (1903) and professor, and has resided, since 1908, at Charlottenburg. His work consisted of experiment and writing on long-distance photography, the phototelautograph, physical phenomena, mechanics; but he has devoted his best labors to the potential theory and the mathematics of physics. Among his numerous published works are 'Eine Theorie der Gravitation und der elektrischen Erscheinungen auf Grundlage der Hydrodynamik' (2d ed., 1896); 'Ueber Molecular-Funktion' (1897); 'Lehrbuch der Potentialtheorie' (Berlin 1899–1901); 'Freie und erzwungene Schwingungen' (1910); 'Handbuch der Phototelegraphie und Telautographie' (1911). He has also contributed numerous articles to such journals as *Berichte der Bayrischen Akademie der Wissenschaft; Comptes rendus de l'Académie des Sciences; Naturwissenschaftliches Wochenschrift,* etc.

KORNEMANN, kôr'nĕ-män, **Ernst W. G.,** German historian: b. Rosenthal, 11 Oct. 1868. He studied at Giessen (1878–89) and Berlin (1889–92), and took the degree of doctor of philosophy (1891); he was appointed assistant professor teaching under the faculty (1892). He became private teacher (*docent*) of ancient history at Giessen (1892) and took the degree of professor at Tübingen (1902). With Dr. Lehmann-Haupt, of Liverpool, he established the periodical *Klio,* dedicated to ancient history, and later took up his residence in Tübingen. He wrote 'De civibus Romanis in provinciis imperii consistentibus' (1891); 'Die historische Schriftstellerei des Consuls Asinius Pollio' (1896); 'Zur Geschichte der Gracchenzeit' (1903); 'Die neue Livius-epitome aus Oxyrhynchus' (1904); 'Kaiser Hadrian und der letzte grosse Historiker von Rom' (1905); 'Priesterkodex in der Regia und die Entstehung der altrömische Pseudogeschichte' (1912). Besides numerous articles written for *Klio* he contributed on classical subjects to the *Realencyklopedia* of Pauly-Wissowa-Kroll.

KÖRNER, kĕr'nĕr, **Christian Gottfried,** German jurist and intimate of Schiller: b. Leipzig, 2 July 1756; d. Berlin, 13 May 1831. He studied law at Göttingen and Leipzig and took his degrees in the latter. He then traveled abroad (1779), was appointed councillor of the Consistorial Court at Leipzig (1781), chief judge of the Court of Appeals (1790), privy referendarius in the Privy Council (1798), and was then returned to the Court of Appeals (1811). His strong tendency toward science and art made his home the rendezvous of prominent men in this sphere. He was one of the most trusted and influential friends of Schiller, who resided (1785–87) on his Loschwitz vineyard or his home at Dresden. While Leipzig was under the occupation of the Russian army

he was created government councillor, and was appointed (1815) Privy Councillor of the Prussian Ministry of the Interior, becoming Privy Councillor in Chief. He instigated the first edition of Schiller's works with a biographical sketch (Stuttgart 1812–15). Among his well-known works are 'Æsthetische Ansichten' (Leipzig 1808); 'Versuche über Gegenstände der innern Stadtsverwaltung' (Dresden 1812); 'Deutschlands Hoffnungen' (Leipzig 1813). Of much importance are his 'Schillers Briefwechsel mit Körner' (Berlin 1847), enlarged edition by Goedeke (Leipzig 1874); 'Briefe Wilhelm von Humboldts an Körner,' issued by F. Jonas (Berlin 1879). His collected works, 'Gesammelte Schriften,' together with a biography, were published by A. Stern (Leipzig 1881). Consult Jonas, 'Christian Gottfried Körner, biographischer Nachrichten über ihn und sein Haus' (Berlin 1882); Weber, W., 'Briefe der Familie Körner' (in *Deutsche Rundschau*, Vols. XV–XVI).

KÖRNER, Karl Theodor, German poet: b. Dresden, 23 Sept. 1791; d. 26 Aug. 1813. After studies at Freiberg, Leipzig and Berlin, young Körner, through Kotzebue's influence, was appointed dramatist to a Vienna theatre, and wrote light comedies such as 'The Green Mask' and 'The Night Watches,' and some tragedies, of which 'Zriny' was the most successful. In the uprising of the German nation against Napoleon, Körner not only displayed heroic personal courage in many encounters, but wrote numerous patriotic songs These were published in 1814 under the title of 'Lyre and Sword.' The most famous of these pieces is the 'Sword Song,' composed only a few hours before the author fell in a skirmish between Schwerin and Gadebusch.

KORNILOFF, kŏr'nē'lŏv, **Laurus Gregorovitch,** Russian general: b. Siberia, 30 June 1870. The son of humble Cossack parents, he had to work hard from childhood, but managed to educate himself sufficiently to enter the Cadet Corps at the age of 13. At 19 he had learned several languages, entered the Artillery College in Saint Petersburg and at 22 obtained his commission. An excellent mathematician and learned scholar, he might have had an easy career in the metropolis, but he chose to be stationed in Turkestan. He entered the Staff College in 1895 and graduated with the highest honors. Between 1896 and 1902 he carried out a series of daring missions in Persia and Afghanistan, disguised as a native. These explorations enabled him to make important contributions to science. In the Russo-Japanese War he commanded a brigade and displayed military talents of a high order. He was attached to the General Staff after that war, spending most of his time traveling in Asia and Europe. From 1907 to 1911 he was military attaché at Peking, after which he commanded the Trans-Amur frontier force, which accompanied him in the European War in 1914. He led the 49th division in the conquest of Galicia early in the war. He was trapped in the Dukla Pass in the Carpathians during the Austro-German offensive in May 1915. Surrounded by superior forces, he hacked his way through the enemy lines and saved a large portion of his forces. Wounded, he fought with a small rearguard till all had fallen. He was captured by the Austrians, but escaped from prison and returned to Russia in 1916. In the early stages of the Russian revolution he was placed in command of the troops in Petrograd, but, unable to endure the systematic misrule of the provisional committees, he asked to return to the front. His capture of Halicz 10 July 1917 marked him as a great commander, and on the resignation of General Brussiloy he was appointed commander-in-chief of the Russian armies in August 1917. He immediately entered into negotiations with the provisional government concerning the necessary steps to be taken in order to re-establish the fighting strength of the army. The greater part of the measures proposed by Korniloff were accepted by the government, which took a final decision on the questions involved on 26 August. The decision, however, was not carried out owing to the unexpected demand of Korniloff that the powers of dictatorship should be conferred upon him. On 9 Sept. 1917 he led a counter-revolution against Kerensky and marched on Petrograd with his troops. Kerensky deposed him from his command, and Korniloff issued a bold proclamation to the people and the government pleading for a vigorous prosecution of the war. However, he surrendered on 13 September and was arrested with 23 generals and other officers. The affair was smoothed over eventually as a "misunderstanding" between the Premier and the general. See RUSSIAN REVOLUTION; WAR, EUROPEAN.

KOROLENKO, kôr'ō-lĕn'kō, **Vladimir Galaktionovitch,** Russian novelist: b. Zhitómir in Volhynia, 27 July 1853. His father, a member of an old Cossack family, was a judge, of stern and honorable character, who believed in a Spartan education for his children. His mother was of aristocratic Polish origin, and when she was left a widow in straitened circumstances, she opened a boys' boarding-school. Korolenko, a boy of 15, assisted her and also gave lessons outside. In 1870 he entered the Technical School at Saint Petersburg, earning his way by teaching and doing copying. His mother was unable to aid him and he often suffered from hunger. In 1872 he entered the Agricultural Institute at Moscow, but having become affected with revolutionary opinions he was expelled and sent to Kronstadt. He managed to return to Saint Petersburg where he finally secured a position as reader in a publishing house. He embodied his experience in a small volume entitled, 'Episodes in the Life of a Seeker' or 'Prokhan and the Students.' This was begun in *Russian Thought* (*Russkaya Muisl*) but was stopped by the censor. He was already a marked man and was arrested in 1879 and sent to Viatka, Kama and Tomsk. He wrote a letter protesting against such persecution and as a reward was transferred to Yakutsk in eastern Siberia, where, amid the immense forests known as "taïga," in a filthy, smoky village, he spent three miserable years. "My tiny hut," he says, "was like an island lost in a boundless ocean." He experienced the terrible sadness of exile and absolute loneliness, amid a degraded and hopeless people. He wrote his first notable story, 'Makar's Dream' ('Son Makára'), which was published several years later, as well as a number of tales, giving remarkably realistic pictures of life in that

desolate region and of suffering humanity, and introducing various types of revolutionists, exiles and vagabonds as he saw them in the frozen Siberian forests and in far-distant Saghalien. His 'Sketches of a Siberian Traveler' was published in 1896. In these stories and in 'The Tramp' ('Brodyág') he gives many reminiscences of his own experiences, as a boy and as a young man. 'The Murmuring Forest,' published in the same year as 'Brodyág,' considerably added to his reputation, which was wholly confirmed by 'The Blind Musician' ('Slepói Musikánt'), which is an idyllic tale of that Ukraine where his childhood was spent. (Translated by Aline Delano, with introduction by George Kennan, Boston 1890). In 1888 he began the publication of a long novel in *Russian Thought* (*Russkaya Muisl*), but as soon as its plot began to develop, the censor interposed a veto and the publishers were compelled to announce that "on account of circumstances beyond their control" the rest of the work could not be printed. In supposed answer to Tolstoi's doctrine of non-resistance, he wrote 'The Legend of Florus' which is regarded as one of his most beautiful tales. The subject was taken from Josephus. Other stories and articles were elicited by famine conditions in Russia and by the evil customs of duelling. In the 90's he was permitted to return from Siberia and engaged in journalism and other literary activities. In 1903 the 50th anniversary of his birth was celebrated all over Russia and in 1908 the occasion of the 30th anniversary of his commencement as an author was made a jubilee. He is one of the freshest and most vivid of Russian writers and, as shown in his 'Yom Kippur' has a sense of humor unusual in Russian novelists.

NATHAN HASKELL DOLE.

KÖRTE, Christoph E. Gustav, German archæologist: b. Berlin, 8 Feb. 1852. He studied in the universities of Göttingen, Munich and Berlin (1870–75), then traveled in Italy and Greece. He was private teacher (*docent*) at Göttingen (1880) and received the degree of assistant professor at Rostock (1881) and professor (1883). He was appointed secretary of the Imperial German Archæological Institute at Rome (1905), and succeeded Dilthey at Göttingen University (1907). He has written 'Die antique Skulptur aus Bœotien' (1878); 'Etruskische Spiegel' (1884–97), in collaboration with the late A. Klügmann; 'I rilievi delle Urne etruske' (1890–96), a continuation of the work of H. Brunn. He compiled a report of the results of excavations he and his brother made at Gordium in 1900 (Berlin 1904).

KÖRTING, kėr'ting, **Gustav,** German philologist: b. Dresden, 25 June 1845; d. 1913. He studied in Leipzig (1863–67), was appointed head teacher at Dresden (1868) and became professor of Romance and English philology at Münster (1876) and at Kiel (1892). He wrote 'Ueber die Quellen des Roman de Rou' (1867); 'Diktys und Dares' (Halle 1874); 'Petrarcas Leben und Werke' (Leipzig 1878); 'Boccaccios Leben und Werke' (Leipzig 1880); 'Enzyklopädie und Methodologie der Romanischen Philologie' (Leipzig 1884–88); 'Neuphilologische Essays' (Leipzig 1887); 'Grundriss der Geschichte der englischen Literatur' (Münster 1887; 5th ed., 1910); 'Enzyklopädie der französische Philologie' (Leipzig 1894); 'Geschichte des griechischen und römischen Theaters' (Paderborn 1897); 'Lateinisch-romanisches Wärterbuch' (Paderborn 1890–91; 3d ed., 1907).

KORTING ENGINE. See INTERNAL COMBUSTION ENGINE.

KORTUM, kôr'tŭm, **Karl Arnold,** German physician and author: b. Mülheim, 5 July 1745; d. Bochum, 15 Aug. 1824. He practised as physician at Duisberg, but moved to Bochum (1771). He wrote 'Vertheidigung der Alchemie' (Duisberg 1789), but is better known through his comical epic poem in doggerel rhyme, 'Leben, Meinungen und Taten von Hieronymus Jobs dem Kandidaten' (Münster 1784), published anonymously, but later appearing under the title, 'Die Jobsiade' (Dortmund 1799) and going through many editions. Besides a number of medical works, he wrote on subjects of general utility such as bee culture and antiquarian matters. Consult Deicke's two works, 'Der Jobsiadendichter Karl Arnold Kortum' (Mülheim 1893), and 'Des Jobsiadendichters Karl Arnold Kortum: Lebensgeschichte von ihm selbst erzählt' (Dortmund 1910).

KOSCHAT, kō'shăt, **Thomas,** Austrian composer and singer: b. Viktring, near Klagenfurt, 8 Aug. 1845. He studied philosophy at the Vienna University, but took part as bass singer in small entertainments, joining the chorus of the Vienna Court Opera (1867). He became a member of the cathedral choir (1874) and rose to the position of court bandmaster (1878). He is known through his many choruses, quartets and songs and the waltz-idylls, 'Ein Sonntag auf der Alm,' 'Bauernhochzeit in Kärnten,' etc. The success of them led him to write 'Hadrich,' poems in the Carinthian dialect (1877). He wrote also 'Errinnerungsbilder' (Klagenfurt 1889); 'Dorfbilder aus Kärnten' (Leipzig 1878). Consult Schmidt, O., 'Thomas Koschat' (Leipzig 1887); Marold, 'Das Kärntner Volkslied und Thomas Koschat' (Leipzig 1895); Krobath, 'Thomas Koschat, der Sänger Kärntens' (Leipzig 1912).

KOSCIUSKO, kŏs'ĭ-ŭs'kō, Mo., capital town of Attala County, on the Yockanockany Creek, and on the Mississippi division of the Illinois Central Railroad, about 60 miles from Jackson. It has a Baptist college, negro school, seven churches, two banks and two newspaper offices. Its industrial resources are derived from cotton and oil mills and wood-working factories, etc. Pop. 2,385.

KOSCIUSKO, Mount, in Australia, the highest mountain peak in the continent, in the Muniong Alps, in New South Wales, near the frontier of Victoria. It is 7,308 feet high.

KOSCIUSZKO, kŏs-ĭ-ŭs'kō (Polish kŏschoosh'kō), **Thaddeus** (Polish TADEUSZ), Polish patriot: b. Mereczowszczyzna, Lithuania, 12 Feb. 1746; d. Solothurn, Switzerland, 15 Oct. 1817. He was educated in the military school at Warsaw, and completed his studies in France. On his return to Poland he became suitor to the daughter of Sosnovski, marshal of Lithuania, but his love meeting no return he betook himself to America (1777). Having attracted the notice of Washington, he was appointed

engineer, with the rank of colonel, and afterward general of brigade. He performed excellent service and at the end of the war received the thanks of Congress, with the brevet of major-general. He returned to Poland in 1786, and on the occasion of the reorganization of the Polish army in 1789 was appointed major-general, and having declared for the constitution of 3 May 1791, he fought in the war which soon after broke out, with the rank of lieutenant-general. When Stanislaus Augustus in 1793 agreed to the second partition of Poland, Kosciuszko withdrew from the army and retired to Leipzig. At this time the Legislative Assembly in France conferred on him the title of French citizen. When a new insurrection broke out in Poland in 1794 for the purpose of delivering the country from the Russians, Kosciuszko was recalled and made commander-in-chief of the insurgent army. He defeated the Russians at Raclavice, but at the battle of Maciejovice his army was defeated and he himself wounded and taken prisoner. He remained in captivity for two years, and then proceeded to England, and thence to America. In 1798 he returned to Europe on a mission from Congress to France, and contributed to bring about an understanding between the latter country and the United States. In April 1814, he addressed a petition to Alexander I, emperor of Russia, requesting him to grant an amnesty to all expatriated Poles, to accept the title of king of Poland and to give that country a free constitution similar to that of England; but the petition remained without effect. In April 1817 he issued a letter of emancipation to the serfs on his estate in Poland. His death was occasioned by a fall from his horse. In 1818 his body was removed at the expense of the Emperor Alexander of Russia to Cracow, where it was buried in the cathedral, and a monument erected to him. Consult 'Lives' by Falkenstein (1834), German; Chodzko (1837), French; Paszkovski (1837), Komon (1911), Polish; Evans (1883), English.

KOSEGARTEN, kō'zĕ-gär'tĕn, **Johann Gottfried Ludwig,** German Orientalist and historian: b. Altenkirchen, island of Rügen, 10 Sept. 1792; d. Greifswald, 18 Aug. 1860. He studied theology and philosophy at Greifswald and Oriental languages at Paris (1812–14), becoming adjunct professor of the faculty at Greifswald (1815). He was appointed professor of Oriental languages at Jena (1817), but returned to Greifswald (1824) where he died leaving many valuable works uncompleted, such as 'Taberistanensis annales' (Vols. I–III, Greifswald 1831–53); 'Kitâh al-aghâni' (ib. 1840); 'Pantschatantra' (Bonn 1848 and Greifswald 1859). Among his early works are 'Carminum orientalium Triga' (Stralsund 1815); 'Tûti nâmeh' (Stuttgart 1822), a collection of Persian stories translated into German; the 'Moallaka' of the Arabian poet Amr ibn Kulthûm, with Latin translation (Jena 1819); 'Chrestomathia arabica' (Leipzig 1828). Of his later works might be cited 'Pommersche und rügische Geschichts denk mäler' (Greifswald 1834); 'Codex Pomeraniæ diplomaticus' (ib. 1843–62) in collaboration with Hasselbach; 'The Hudsailian poems' (Greifswald and London 1854). His Arabian Grammar and Dictionary of the Low German Language were unfinished. He also wrote 'Geschichte der Universität Greifswald' (Greifswald 1856–57).

KOSER, kō'zėr, **Reinhold,** German historian: b. Schmarsow, Prussia, 7 Feb. 1852. He studied history and philology in Berlin, Vienna and Halle and was appointed to work in the Berlin Academy on the correspondence of Frederick the Great. He was appointed keeper of the state archives at Berlin (1882) and was given the degree of assistant professor at Berlin (1884), professor at Bonn (1891) and succeeded Sybel as general director of the Prussian state archives (1896). At the same time he was made a member of the Akademie der Wissenschaften and Prussian state historiographer (1898). He wrote 'Friedrich der Grosse als Kronprinz' (Stuttgart 1886); 'König Friedrich der Grosse' (ib. 1890–1904); 'Preussische Staatsschriften aus der Regierungszeit Friedrichs II' (Berlin 1877–85); 'Politischen Korrespondenz König Friedrichs der Grosse' (ib. 1879–83); 'Unterhaltungen Friedrichs der Grosse mit H. de Catt' (Leipzig 1885); 'Briefwechsel Friedrichs der Grossen mit Grumbkow und Maupertius' (ib. 1898); 'Mitteilungen der königlichpreussischen Archivverwaltung' (ib. 1900–04).

KOSHER, kō'shėr, **KASHER, or COSHER,** in Hebrew כשר meaning lawful, pure, clean, in conformity with the laws of the Talmud. It is the antithesis of *terefo* or *tref,* the unclean. Food, utensils, etc., which have undergone the operations and rituals laid down for the orthodox Jews, such as meats slaughtered under the ritual of the Mosaic law. The slaughterer (*schochat*) acts under the license of a chief rabbi. As the far-reaching rules of the Jewish authorities render it impossible for a Jew to obtain sustenance among communities of other religions without breach of some or other of these Mosaic laws or their renderings, there are ever-increasing numbers of Jews who give the matter secondary consideration according to their surroundings and who are known as Liberal Jews.

KÖSLIN, kės-lēn, **or CÖSLIN,** Prussia, town in Pomerania at the foot of Gollenberg Mountain, junction of several railways, five miles from the Baltic. It has two Evangelical, a Catholic and an Apostolic church, and a synagogue; a statue of Frederick William I on the market place; a war monument, a monument of Government-president Fritsche, cadet school, gymnasium, seminary, deaf and dumb institute, agricultural school, iron foundries and manufactures of machinery, paper, soap, railroad signals; a brewery, three steam sawmills, etc. It is a garrison town. The foundation dates back to about 1188, being incorporated as a town 1266. Pop. 23,200, chiefly Protestants.

KOSLOV, kōz-lŏf', Russia, county-town of the government of Tambo, junction of two railroads. It has nine Greek Catholic churches, several banks, more than 50 factories, large grain and cattle trade, etc. Its origin is said to date back to 1627. In the neighborhood is the monastery Troitzkoi, where a great market is held yearly. Pop. 50,300.

KOSMOS. See Cosmos.

KOSSEL, Albrecht, German physiologist: b. Rostock, 16 Sept. 1853. He studied medicine

at Strassburg and Rostock and became assistant to Hoppe-Seyler (1877–81) in Strassburg and private teacher (*docent*). He studied physiological chemistry (1881) and became assistant professor and principal of the chemical division of the Physiological Institute, Berlin (1883). He was appointed professor of physiology at Marburg (1895) and at Heidelberg (1901). In 1910 he took the Nobel prize. His chief work was the study of the cell and its nucleus elements; the decomposition of albumen in its conversion to peptones; discovery of adenin, thymin; action of the nucleic acids on bacteria. He also made researches in trypsin digestion. He wrote 'Untersuchungen über die Nukleine und ihre Spaltungsprodukte' (Strassburg 1881); 'Die Gewebe des menschlichen Körpers und ihre mikroskopische Untersuchung' (Brunswick 1889–91) in collaboration with Behrens and Schiefferdecker; 'Leitfaden für medizinisch-chemische Kurse' (5th ed., Berlin 1904). Numerous valuable contributions to the journals on physiological chemistry are from his pen.

KOSSINNA, kŏs'ĭ'nạ, **H. Gustaf,** German archæologist: b. Tilsit, 28 Sept. 1858. He studied at Göttingen, Leipzig, Berlin and Strassburg and was promoted to doctor of philosophy at Strassburg University (1881). He was appointed to a position in the University Library at Halle (1886) and in the Berlin Library the same year; and became curator of the Bonn Library (1887), and of the Royal Berlin Library (1892) and librarian (1894). He was given the degree of professor (1900) and undertook a prolonged trip to study the German museums of archæology. In 1902 he was made professor of German archæology of the Berlin University and founded the *Deutsche Gesellschaft für Vorgeschichte* (1909). He was a prolific contributor to the archæological journals. On ethnology he wrote 'Die ethnologische Stellung der Ostgermanen' (1896); 'Die indo-germanen Frage archæologisch beautwortet' (1902); 'Die Herkunft der Germanen' (1911). Among his works on archæological subjects should be cited 'Die vorgeschichtliche Ausbreitung der Germanen in Deutschland' (1896); 'Ursprung des Germanen-namens' (1895); 'Zur Geschichte des Volksnamens Griechen' (1896). He also edited *Mannus, Zeitschrift für Vorgeschichte.*

KOSSOVO, koos'ō-vō, Turkey, a vilayet bordering on Bulgaria, Serbia, Bosnia and Montenegro, having within its confines the sandjaks Uskub, Prizren, Prishtina, Ipek and Plevlje. Its capital is Uskub. Its population consists of Turks, Christians and Mohammedans to the number of 1,100,000 in 1905. On the plain of Kossovo west of Prishtina is said to have occurred the historic battle (1389) between the Serbians and Turks, after which defeat Serbia lost her power.

KOSSUTH, kŏsh'ŭt, **Francis,** Hungarian statesman: b. Budapest, 1841; d. there, 25 May 1914. The son of the famous Hungarian revolutionist, he was educated in London and Paris and became an engineer. He took part in the construction of the Mont Cenis Tunnel and acted as managing engineer of a British coal-mining undertaking in the Romagna. He began to take an active part in Hungarian politics after the restoration of the constitution, and in 1894 became titular head of the "Party of 1848." He took the oath of allegiance and was elected a deputy, leading the ultra-Nationalist opposition against five consecutive ministries. His party gained a decisive victory in the election of 1905 and it was expected that Kossuth would be appointed Premier. Baron Fejervary, however, stepped into the post, but a Nationalist ministry came into power in 1906 and Kossuth became Minister of Commerce. The cabinet fell in 1909. Though a man of many accomplishments, he was not a striking politician; the inheritance of his name was alone responsible for his entry into public life.

KOSSUTH, kŏs-sooth' (Hung. kŏsh'ŭt), **Lajos** (Louis), Hungarian patriot: b. Monok, Hungary, 19 Sept. 1802; d. Turin, Italy, 20 March 1894. He came of a family of noble rank and of the Protestant religion, studied and practised law, and in 1832 entered the Parliament of Pesth as the deputy of absent magnates, becoming also editor of a newspaper which, owing to the stringent press laws, had to be circulated in manuscript. For persisting in publishing the Parliamentary debates he was condemned to four years' imprisonment, but was released in 1840 before the end of this period. In 1841 he became editor of the Pesth *Journal,* a paper that advocated very advanced views and in 1844 founded the national league in opposition to the Viennese goverment. In 1847 he was elected to the Hungarian Diet by the National party and in 1848 became Minister of Finance in the Hungarian government. His influence had much to do in bringing about the revolution which followed and in which he played the most prominent part, being appointed governor or dictator by his fellow-countrymen; but the intervention of Russia rendered all the efforts of the Magyars unavailing. He resigned his position in favor of Görgei (whom he accused of treachery), and in 1849 he found it necessary to take refuge in Turkey, where he was kept as a prisoner. Being releasd in 1851 through the influence of Great Britain and the United States, he soon after visited both these countries and was received in the most enthusiastic manner. He endeavored subsequently to induce Napoleon III as well as Victor Emmanuel to act against Austria in favor of Hungarian independence, but without success. Though by the amnesty of 1867 he might have returned to his native land he did not do so, but lived chiefly in Italy and was never fully reconciled to the union that had taken place between Austria and Hungary. His 'Memories of My Exile' appeared in English in 1880.

KOST, Frederick W., American painter: b. New York, 1861. He studied at the National Academy of Design under William S. Macy and later at Munich and Paris. He specializes on landscapes. In 1900 he received honorable mention from the Paris Exposition; a bronze medal, in 1901, from the Buffalo Exposition; silver medal, in 1904, from the Saint Louis Exposition. In the New York Metropolitan Museum of Art is his 'Frosty Morning'; his 'Smithfield Marshes, Staten Island,' hangs in the Brooklyn Institute; 'On the Saint John River, N. B.,' is in the Philadelphia, Pa., Academy,

etc. He is a member of the Society of Landscape Painters, of the Brooklyn Society of Arts and Crafts, the Artists' Fund Society, the Society of American Artists, etc.

KÖSTER, kė'stėr, **Hans,** German dramatic poet: b. Kritzow, 16 Aug. 1818; d. Ludwigslust, 6 Sept. 1900. He studied philosophy, traveled in Italy and France and then took up residence in Berlin. He moved later to Weimar and then to Villa Priorsberg, near Neuzelle, Brandenburg, for agricultural work. His dramatic works treat mostly of historical events and show lively action and frequently capital characteristics; the earlier ones obtained the approval of the critics but did not reach the stage. Later dramas of his, often performed, are 'Ulrich von Hutten' (Breslau 1846); 'Hermann der Cherusker' (Berlin 1861); 'Der Grosse Kurfürst' (ib. 1851), etc. He also wrote the tales 'Liebe und Leiden' (Breslau 1862) and 'Erlebnisse und Gestattungen' (Berlin 1872). The publications entitled 'König Wilhelm und sein Heer' (Berlin 1868) and 'Kaiser und Reich' (ib. 1872) are collections of his patriotic poems. He also wrote biblical poetry such as 'Hiob' and 'Die Bergpredigt' (Bielefeld 1885). His Prusso-German sentiments, so forcibly expressed in a number of political pamphlets, were also made manifest in his speeches as member of the North German and later of the first German Reichstag.

KÖSTER, Hans Ludwig Raimund von, German admiral: b. Schwerin, 29 April 1844. He studied at the Werder Gymnasium, Berlin, and was candidate for cadet in the navy (1859), being appointed to active service on the coast. He was promoted to lieutenant before reaching his 20th birthday and made a cruise around the world (1878–80). He was chief of staff in the Admiralty (1884–87) and rear-admiral in 1889. Till the end of 1893 he was director of the Department of Marine, and, until 1896, was in command of the first squadron, then chief of the Baltic marine station. In 1899 he was inspector-general of marine, in which capacity he commanded the squadrons of manœuvre. In 1900 he was given the rank of hereditary noble and appointed to the command of the active battle fleet (1903). He was raised to the rank of great admiral in 1905, retiring from active service (1906) to devote his time to the advance of the "greater navy" proposition. In 1908 he was elected president of the German Navy League. His title of nobility made him a member of the Prussian House of Lords.

KOSTER, or COSTER, Samuel, Dutch dramatist: b. Amsterdam, 16 Sept. 1579; d. some time after 1662. He obtained his medical diploma (1610) and practised as a physician at Amsterdam where he was director of the infirmary till 1662. He founded, after Italian style (1617), the *Duytsche Academie.* He is especially noted for his delightful comedies 'Tijsken van der Schilden' (1613) and 'Teeuwis de boer' (1612), which show up his talents in drawing up a plot and giving color to the characters. He wrote tragedies, such as 'Ithys' (1615); 'Iphigenia' (1617), a political satire, and 'Isabella,' after Ariosto, in conjunction with Hooft; also 'Polyxena' (1619). His works are published in collective form, edited by R. M. Kollewyn (Haarlem 1883). Consult Rossing, who wrote his biography (Leyden 1875).

KÖSTLIN, kėst-lēn, **Christian Reinhold,** German poet and criminologist: b. Tübingen, 29 Jan. 1813; d. there, 14 Sept. 1856. He practised law in Stuttgart (1836) but settled in Tübingen as private teacher (*docent*). He was writing, in the meanwhile, poems, also stories for the *Novellenzeitung,* all under the name of C. Reinhold, which were published collectively later (Bremen 1847–48). The success in his career as a jurist was established by his 'Die Lehre vom Mord und Tatschlag' (Stuttgart 1838) and 'Wilhelm I, König von Wirtemberg, und die Entwichelung der wirtembergischen Verfassung' (ib. 1839). He was given the degree of professor (1851). His most important works on criminal law in his later life are 'Der Wendepunkt des deutschen Strafverfahrens im 19 Jahrhundert' (Tübingen 1849); 'Die geschwornen gerichte' (Leipzig 1851); 'Geschichte des deutschen Strafrechts' (Tübingen 1859).

KÖSTLIN, Julius, German Protestant theologian: b. Stuttgart, 17 May 1826; d. 12 May 1902. He traveled in England and Scotland (1849) and was appointed vicar at Stuttgart (1850), soon to become private instructor (*Repetent*) at the theological seminary at Tübingen. He was given the appointment of professor of Theology at Göttingen (1855), Breslau (1860) and Halle (1870), and retired in 1896. He wrote, among other numerous works, 'Luthers Lehre von der Kirche' (Stuttgart 1854); 'Das Wesen der Kirche, beleuchtet nach Lehre und Geschichte des Neuen Testaments' (ib. 1854); 'Luthers Theologie' (ib. 1863); 'Martin Luther, sein Leben und seine Schriften' (Elberfeld 1875; 5th ed., Berlin 1903); 'Luthers Leben,' a very popular work (Leipzig 1882; 9th ed., 1891); 'Der Glaube und seine Bedeutung für Erkenntnis, Leben und Kirche' (Berlin 1895); 'Christliche Ethik' (Berlin 1898). He was editor of *Theologischen Studien und Kritiken* from 1873. Consult 'J. Köstlin, Autobiographie' (Danzig 1891).

KÖSTLIN, Karl Reinhold, German theologian and æsthetic: b. Urach, 28 Sept. 1819; d. Tübingen, 12 April 1894. He studied philosophy and theology at Tübingen and Berlin but soon devoted himself solely to philosophy. He was given the degree of assistant professor (1857) and made professor of æsthetics and art history (1863). He wrote 'Der Lehrbegriff des Evangeliums und der Briefe Johannis' (Berlin 1843); 'Der Ursprung der synoptischen Evangelien' (Tübingen 1853); 'Goethes Faust, seine Kritiker und Ausleger' (Tübingen 1860); 'Hegel in philosophischer, politischer und nationaler Beziekung' (Tübingen 1870); 'Ästhetik' (Tübingen 1863–69), his chief work; 'Richard Wagners Tondrama: Der Ring des Nibelungen' (Tübingen 1877); 'Ueber die Schönheits begriff' (Tübingen 1879); 'Geschichte der Ethik' (Tübingen 1887); 'Prologomena zur Ästhetik' (Tübingen 1889).

KOSTOMAROV, kō'stō-mä'rôf, **Nikolai Ivanovitch,** Russian historian: b. Ostrogosz, Government Veronezh, 1817; d. Saint Petersburg, 19 April 1885. He studied in the Kharkov and Moscow universities and entered a dragoon regiment (1836) but obtained his release and was appointed teacher (*docent*) at the Kiev University (1846). He was dismissed the following year for his activities in Little

Russian literature, and joined his friends Szewczenko, Kulisz and Bitozerski in a secret literary society to resuscitate the Slavophile propaganda. His action caused his arrest and deportation to Saratow. After the death of Tsar Nikolas I he obtained permission to travel abroad, and was appointed (1859) professor of history at Saint Petersburg. On the closing of the university in consequence of a students' riot (1861) he retired to take up literary work alone, assuming the *nom-de-plume* of Jeremija Halka. His poetic works were written in Little Russia vernacular and were published in Odessa (1875) in a collective issue, the dramas, 'Sawa Czalyi' (1838) and 'Ukrainskie ballady' (1839), among them. In 1847 he was forbidden further publication of his works in Little Russian version and he then devoted himself to historical research. Among his principal works are 'Historical Monographs' (Saint Petersburg 1863–72, 12 vols.); 'History of the old Slavic republics, Novgorod and Iskov' (1863); 'Russian history in Biographies of her most important Personages' (Saint Petersburg 1873; translation by Henckel, Leipzig 1886–89). Consult Pypin, 'Nikolai Kostomarov' (in "History of Russian Ethnography," Saint Petersburg 1893).

KOSTROMÁ, Russia, a government bounded on the north, east and south by the governments Vologda, Viatka, Nizhni Novgorod and Vladimir, respectively, and on the west by Jaroslav. Its area is 32,432 square miles and its population, 1,745,800 in 1912, consists chiefly of orthodox Russians with a sprinkling of Tartars and Cherimisses. From an agricultural standpoint this government belongs to the so-called central-Russian industrial territory; its chief commerce is in lumber, but it has a considerable agricultural production of oats, rye, wheat and barley, and its flax industry is valuable, grown chiefly in the Nerechta district. Its bee industry and fisheries, formerly important, have fallen off. Of its inconsiderable manufactures might be cited cotton goods and linen ware, leather products and brandy distilling.

KOSTROMÁ, kŏs'trō-mä', Russia, capital of the government of the same name, situated at the confluence of the rivers Kostroma and Volga and on the Jaroslav-Kostroma Railway. It has a monument erected to Ivan Sussanin with a bronze bust of Tsar Michael Feodorowitch, whom he saved (1613) from the Poles. Here are no less than 38 churches, the 14th century, richly adorned cathedral of the Assumption and the beautiful Bogojavlensky Church (18th century) among them; also two monasteries, a gymnasium, a gymnasium for girls, a high school, priests' seminary, lady-teachers' seminary and a theatre figure among the prominent public buildings. Among the commercial features are two banks, numerous manufactures, of linen especially, besides a considerable trade in salt and other products and its shipping. It is said to have been founded in 1152 by Juri Dolgouruky. Pop. 67,274.

KOSZTA (kō'stą) **AFFAIR,** a diplomatic incident. A Hungarian refugee to the United States, named Martin Koszta, obtained his "declaration of intentions" or first citizenship papers in 1850. He visited Smyrna in 1853 and was seized by members of the crew of the Austrian brig *Huzar* on 21 June. Captain Ingraham, of the American war sloop *Saint Louis,* under instructions from the American Minister at Constantinople, demanded his release. Hearing that the prisoner was to be transported secretly to Trieste, Captain Ingraham set a time limit to the surrender and made preparations to attack the *Huzar* on 2 July. The prisoner was surrendered. The Austrian government issued to the European courts a note of protest against the American procedure. Baron Hülsemann, Austrian *Chargé d'Affaires* at Washington, asked Secretary of State Marcy "to disavow the conduct of its agents . . . hasten to call them to a severe account and tender to Austria a satisfaction proportionate to the magnitude of the outrage," claiming the arrested man to be an Austrian citizen and the action of Ingraham violative of international law. Marcy's reply, within a month, declared Koszta was not a citizen of Austria but "that Koszta, when seized and imprisoned, was invested with the nationality of the United States, and they therefore had the right, if they chose to exercise it, to extend their protection to him; that from international law — the only law which can rightfully be appealed to for rules in this case — Austria could receive no authority to obstruct or interfere with the United States in the exercise of this right, in effecting the liberation of Koszta; and that Captain Ingraham's interposition for his release was, under the extraordinary circumstances of the case, right and proper." The Congress passed a joint resolution of thanks to Captain Ingraham and invested him with a medal in commemoration of his services. Consult 'Correspondence between the Secretary of State and the Chargé d'Affaires of Austria relative to the Case of Martin Koszta' (Washington 1853); Rhoades, J. F., 'History of the United States from the Compromise of 1850' (New York 1910), this contains a bibliography of the controversy. See INGRAHAM, DUNCAN NATHANIEL.

KOTLIAREVSKI, kŏt'lyä-rĕf'skĭ, **Ivan Petrovitch,** Russian poet: b. Poltava, 9 Sept. 1769; d. there, 10 Nov. 1838. He first entered state service but in 1796 joined the army, and was advanced, in the Turkish War, to captain of the staff. He undertook (1808) the management of an educational establishment for the children of poor nobility at Poltava, and superintended (1827) the local poorhouse until 1835. He raised the Little Russia idiom to a literary language and thereby became the founder of Little Russia national literature. His most important work is the travesty on Virgil's 'Æneid' (Saint Petersburg 1798; last ed., 1890), which overflows with transcendent, sparkling humor and was intended to shake off the apathy that had lost the Cossacks their freedom and which chastised without mercy the crimes of the lower classes. On the other hand his dramatic pictures of customs display the moral capacity of the people in his plays, 'Natalka Poltawka' ('Natalie of Poltava') and 'Moskal čariwnyk' ('The Soldier as Conjuror'). His entire works were published in Kiev (last ed., 1890).

KOTO, a Japanese musical instrument, having a long box, larger at one end than the other, and with a convex top over which 13 silk

strings are strung and fastened tightly at each end, each string having a bridge. To tune the instrument it is necessary to move the bridges. The instrument is played with both hands like a harp.

KOTOTSHIKHIN, kō'tō-shē'kin, **Gregory,** Russian writer: b. 1630; d. 1667. He was an official in the Ministry of Foreign Affairs under Tsar Alexis and was suddenly deposed on account of a conflict with his superiors. He went to Poland (1664), then Prussia, then Stockholm, where he wrote a book concerning the internal condition of Muscovy (1666–67) for the Swedish Imperial Chancellor de la Gardie. He was tried and executed for murder soon after this, and his name forgotten. His memory was revived by the discovery (1838) of his interesting work, in the original manuscript, in the Upsala University Library. Under the title 'About Russia under the Rule of Alexis Michaelovitch' it was published by the Imperial Russian Archæographical Commission (last ed., 1884).

KOTOW, kō tow' or -tō', a Chinese form of obeisance; a ceremony in which an inferior, kneeling, touches his forehead to the ground.

KOTZEBUE, kŏt'sĕ-boo, **Alexander von,** German painter: b. Königsberg, 9 June 1815; d. Munich, 24 Feb. 1889. He studied art at the Saint Petersburg Academy under Sauerweid, and after six years went (1846) to Paris to continue his art cultivation. In 1848 he started on a tour of Belgium, Holland, Italy and Germany, settling at last in Munich. He painted numerous battle scenes of the Russians in the Seven Years' War and of the campaigns of Suvorov for the tsar. The most important are 'Storming of Schlüsselburg'; 'Battle of Poltava'; 'Storming of Narva'; 'Passage over the Devil's Bridge.' His pictures are noteworthy for distinctness of composition, care in details and exquisite color work.

KOTZEBUE, August Friedrich Ferdinand von, German dramatist and Russian official: b. Weimar, 3 May 1761; d. Mannheim, 23 March 1819. In 1781 he went to Saint Petersburg, where, obtaining the patronage of the empress, he was made governor of Esthonia and ennobled. About 1800 he returned to Germany, and attacked Goethe and other great German authors who had refused to associate with him. In 1806 he went again to Russia, and lived from 1807 on his estate, Schwartze, in Esthonia. In 1813, as counsellor of state, he followed the Russian headquarters, constantly writing to excite the nations against Napoleon. In 1817 he received a salary of 15,000 roubles, with directions to reside in Germany and to report upon literature and public opinion. Kotzebue, who during the whole campaign had written in favor of the Russians, even at the expense of his native country, and had expressed the utmost contempt for liberal principles and institutions, was now odious in the eyes of most of his countrymen and regarded as a spy. This feeling was so strong in the case of a young enthusiast named Sand that he assassinated him as a traitor to liberty. Kotzebue wrote more than 200 plays, a history of Germany and other works, most of which are now forgotten.

KOTZEBUE, Otto von, Russian navigator; second son of A. F. F. Kotzebue: b. Reval, 30 Dec. 1787; d. there, 15 Feb. 1846. In his 17th year he accompanied Krusenstern in his voyage round the world. In 1815 he was appointed to the command of the ship *Rurik,* destined to ascertain the practicability of a northeast passage in the direction of Bering Strait. He discovered several groups of islands in the Pacific, and a large sound on the southeast of Bering Strait, which now bears his name; and returned after a three years' absence. The results of the voyage were published in a work called 'A Voyage of Discovery in the South Sea and to Bering's Strait in Search of a Northeast Passage' (1821–23). In 1823 he was commissioned by the Emperor Alexander to make a third voyage round the world. He returned in 1826, publishing the results of the voyage in a work which has been of great importance to hydrography, particularly that of the Pacific, 'A New Voyage Round the World' (1830).

KOUMISS, See KUMISS.

KOUROPATKIN, koo'rô-pät'kĭn, **Alexei Nikolayevitch,** Russian soldier: b. 17/29 March 1848. He was trained for the army in the Imperial Military College and the Academy of the General Staff; was sent abroad to study military conditions in various European countries; in 1874 became a member of the general staff of the army; in 1876–77 assisted Skobeleff in the conquest of Khokand, Turkestan, and its reorganization as the territory of Ferghana, and in 1877–78 won high distinction in the Russo-Turkish War by his services at Plevna and the Chipka Pass. In 1878 he was made colonel and in 1878–79 was chief of the Asiatic bureau of the general staff. In 1880–81 he was in Middle Asia, where he commanded the main detachment against the Tekke-Turkomans, and, after a forced march of 600 miles across the desert, stormed Geok-Tepa, by which victory he won his greatest reputation. He was made major-general in 1882, lieutenant-general in 1890, governor of the Trans-Kaspian district and commander of the troops in that district in 1890, and Minister of War in 1898. In 1901 he became general of infantry. At the outbreak of the hostilities with Japan he was sent to command the Russian forces in the Far East. After the battle of Mukden he was superseded by General Linievitch, under whom he continued in service as commander of the First Manchurian army. His failure in the Far East was attributable, in part at least, to his position of subordination to the viceroy, and to dissensions among his generals. In October 1915 he was appointed chief of the Russian Grenadier Guards, and acted in an advisory capacity to the tsar when the latter took up the chief command of the army during the Great European War in succession to the Grand Duke Nicholas. He was later commander-in-chief on the northern front, including the Riga-Dvinsk line, and in August 1916 was transferred to the governor-generalship of Turkestan. As a military writer he is favorably known by several volumes, including 'Kashgarie' (1879), for which he received the gold medal of the Imperial Russian Geographical Society; 'The Operations of the Troops of General Skobeleff during the War of Russia with the Turks' (1885); 'The Conquest of Turkomania' (1889); 'Russia for Russians:

the Past and Future Problems of the Russian Army' (1910).

KOVALEVSKY, kō'vą-lyĕf'skĭ, **Alexander,** Russian embryologist: b. Dünaburg, 7 Nov. 1840; d. there, 22 Nov. 1901. He studied in Heidelberg and Tübingen, and, after traveling, became professor at the Saint Petersburg University and member of the Academy of Science. He rendered useful service by his researches into the formation of the ascidians (1866–71) and the Amphions (1867) and evolved the first acceptable hypothesis of the relationship between vertebrates and invertebrates. He did similar research work effectively on nearly all branches of the animal kingdom; among them was his useful work on the anatomy of the Balanoglossus (1866), on the formation of the Ctenophora cœlenterates (1865), the embryology of worms and arthropods (1871). Other work concerned the organs of secretion and lymphcysts of the vertebrates; brachiopods and cœlenterates (1874). He wrote 'Entwickelungsgeschichte des Amphioxus lanceolatus' (1877); 'Cœloplana metschnikovii' (1882); 'Entwickelung der Musciden' (1887); 'Anatomie de l'Archœobdella esmontii' (1896); 'Anatomie de l'Acanthobdella peledina' (1896).

KOVALEVSKY, Sophie, Russian mathematician and writer: b. Moscow, 15 Jan. 1850; d. Stockholm, 10 Feb. 1891. She wrote much under the name «Sonia.» She received her early education through her father, a general of artillery, then studied mathematics at Heidelberg (1869) after a sham wedding ceremony to legalize her as a college student. She next studied in Berlin (1871–74) under the private tuition of Weierstrass, her sex not being admitted to the university. Her thesis 'Zur Theorie der partiellen Differentialgleichungen' gained her a degree at Göttingen. Beside her thesis she wrote two no less important pamphlets 'Ueber die Reduktion einer Klasse Abelscher Integrale dritten grades in elliptische Integrale' and 'Zusätze und Bemerkungen zu Laplaces Untersuchungen über die Gestalt des Saturnringes' (both published in *Acta Mathematica,* 1884). She returned to Russia, thence to Paris (1878), and, becoming widowed through her husband's suicide, she went to Berlin (1883). In 1884 she was appointed professor of the higher analysis at Stockholm. Other works of hers are 'Ueber die Brechung des Lichtes in kristallinischen Mittel' (in *Acta Mathematica,* 1885); 'Ueber den besondern Fall des Problems der Rotation eines schweren Körpers um einen festen Punkt' (ib. 1889), for which she received the Bordin prize of the Paris Academy, raised from 3,000 to 5,000 francs for the extraordinary production. In the realm of light literature she wrote such works as 'Der Privatdozent,' a description of German university life; 'Die Schwestern Rajewski,' an account of her own childhood; 'Die Nihilisten' (Vienna 1896), etc. Her sketches from Russian life appear collectively in *Literaturnyja sočiñenija* (Saint Petersburg 1893). Consult 'Jugenderrinnerungen' (Berlin 1896); Leffler, Anna, 'Sonja Kovalevsky' (Stockholm 1892), and the necrology of Mittag-Leffler in *Acta Mathematica* (Vol. XVI).

KOVNO, Russia, the government of this name is bounded on the north by Courland, on the east and south by Vilna and Suvalky and on the west by Prussia. It has an area of 15,518 square miles, mostly flat lands and small lakes and watered by the rivers Niemen, Vilija and Sventa, Nevjasha, Dubessa, etc., of which all but the last are navigable. The climate is relatively mild. Its inhabitants, 1,819,540 in 1912, are about three-quarters Lithuanians, the Jews 14 per cent, Slavs over 9 per cent and Germans nearly 3 per cent. Agriculture is the chief branch of industry but there is an improving cattle breeding industry and its growth of wheat, rye and other grains, as well as potatoes, is sufficient to permit a considerable export.

KOWLOON, or **KAULUN,** a district in China, forming a peninsula at the mouth of the Canton River. A concession four miles square was granted to the British in 1860, and augmented by 376 square miles in 1898. The town is a free port, and the European section is fast growing. Pop. 85,000.

KOYUNJIK, koo-yoon-jĕk', or **KUYUNJIK.** See NINEVEH.

KRAAL, krăl, a South African word used to designate a native village whose huts are surrounded and protected by a circular hedge or stockade. The word may be derived from an African source, but is probably taken from the Spanish corral or the Portuguese curral, a cattle pen or fold. Hence the term is used to define the folds or enclosures built for the protection of cattle.

KRAFFT-EBING, krăft-ā'bĭng, **Richard,** BARON VON, German neurologist: b. Mannheim, 14 Aug. 1840; d. Mariengrün, near Graz, 22 Dec. 1902. He studied at Heidelberg, Zürich, Vienna and Prague and was appointed (1864) assistant physician in the lunatic asylum at Illenau. He went to Heidelberg to study psychology (1868) and then settled at Baden-Baden as nerve specialist. After the Franco-Prussian War, in which he was army physician, he directed an electro-therapeutical establishment at Baden-Baden. In 1872 he went to Strassburg as assistant professor of psychiatry and director of the Clinic of Psychiatry, but, in the following year became professor of psychiatry, director of the national insane asylum at Feldhoff, and practised at Graz. In 1886 he was appointed professor of psychiatry and neurology at the enlarged Graz clinic. He founded a private sanatorium at Mariengrün, but went to Vienna (1889) as professor of psychiatry and nervous diseases. In 1902 he returned to Graz. His 'Lehrbuch der Psychiatry auf klinische Grundlage' (Stuttgart 1879–80; 7th ed., 1903) and his 'Lehrbuch der gerichtlichen Psychopathologie' (ib. 1875; 3d ed., 1900) determined the place of psychiatry in clinical science. In neurology also he did great service by his work on epilepsy, hemicrania, paralysis agitans, etc. He also wrote 'Grundzüge der Kriminalpsychologie' (Stuttgart, 1872); 'Ueber gesunde und kranke Nerven' (5th ed., Tübingen 1903); 'Psychopathia sexualis' (Stuttgart 1886; 12th ed., 1903) was translated into seven languages; 'Hypnotische Experimenta' (ib.; 2d ed., 1892); 'Die progressive allgemeine Paralyse,' in Nothnagel's *Pathologie und Therapie* (Vienna 1894, Vol. IX), etc.

KRAFT, kräft, **Adam,** German sculptor: b. Nuremberg, 1440; d. Schwabach, Bavaria, 1507. Nothing is known of his teachers, his student travels or his fortunes. His known productions begin with the seven reliefs (Stations of the Cross) set up in Nuremberg (1490) near the entrance of Saint John's Church; these are now in the German Museum, their original place being taken by sandstone copies. He executed many sepulchral monuments; in the church of Saint Sebaldus is the statue he made for Sebald Schreyer (1492). In the choir of the same church is his bas-relief of three scenes from the Passion, the figures being life-size. He also carved the monument for the Pergerstorff family in the Frauenkirche (church of Saint Mary the Virgin); that for the Landauer family in a chapel of the church of Saint Ægidius. His last work was the 'Entombment,' a group of 15 life-size figures in the mortuary chapel of the Holzschuherschen family, a part of the church of Saint John (1507). He also executed several works of minor importance, as decorations of private and public buildings. His masterpiece is the tabernacle in the church of Saint Lawrence, which he took seven years (1493–1500) in completing. It is more than 50 feet high, and is an example of gorgeous Gothic carving enriched with numerous figures. At the foot he has placed his own portrait, life-size. His style is bold and vigorous, his conceptions are profoundly religious, and his power of lifelike characterization is wonderful. He is the finest exponent of the Nuremberg school of Gothic sculpture.

KRAGUYEVATS, krą-gū'yā-vāts, Serbia, a district town on the river Lepenitsa and the Lapovo-Kraguyevats State Railway. It is in the fertile Sumadia plain and has a gymnasium, cannon foundry, munitions and small-arms factory as well as an arsenal. It was built in 1431 and restored in 1860 by Count Milosh Obrenowitch, when it was the seat of government, and had a population of 18,452 in 1910.

KRAIT, krīt, one of the most dreaded of Oriental poisonous snakes (*Bungarus cæruleus*), nearly related to the cobras. It inhabits nearly all India and Ceylon, is very common in Bengal and southern India, and causes more deaths than any other snake, since in its pursuit of rats, lizards and snakes, it frequently enters camps and village houses; furthermore, its venom is astonishingly rapid in its effects. It reaches a length of four feet, has smooth scales, a ridge along the spine, no hood, and is bluish or brownish black with highly variable bars and markings of yellow and white. Other deadly species of the same genus of bungars or rock-snakes are the larger *raj-samp* or "king-snake" (*B. fasciatus*), noted for its active killing of cobras and other snakes; and other species in Ceylon and the Indo-Chinese region. Consult Ewart, 'Poisonous Snakes of India' (London 1878); Fayrer, 'Thanatophidia of India' (ib. 1874); Wall, 'The Poisonous Snakes of India' (in *Journal* of the Bombay Natural History Society, Vol. XVI, Bombay 1906); the 'Proceedings' of the Zoological Society of London for 1899.

KRAKATOA, krā'ką-tō'ą, a volcanic island in Sunda Strait, between Sumatra and Java; area, six square miles, formerly about 12 square miles. The island, now uninhabited, is known as having been the scene of a terrific volcanic eruption on the night of 26–27 Aug. 1883. The volcano had been practically inactive for over 200 years until May of 1883, when there were indications of an eruption, which culminated at the date mentioned. A number of explosions occurred, the noise of which was heard for many miles. A mass of rock, in the form of dust, ashes and small stones, and of the volume of about a cubic mile, was thrown up for a considerable distance. The dust was projected, vertically, nearly 20 miles, and distributed to all parts of the globe by the upper air currents. The effect, especially as shown in brilliant sunrises and sunsets, was visible for many months. The disturbance created a series of extensive sea-waves which swept over the shores of Java and Sumatra, destroying many villages and causing the loss of more than 30,000 people. The wave-motion was observed in South America. About one-half of the island was destroyed, including the highest mountain. One immediate effect was the darkness which alarmed many people, and which made 27 Aug. 1883 known as one of the dark days.

KRAKEN, krä'- or krā'kĕn, the term, of Norwegian origin, applied to a fabulous sea-monster, generally assumed to be a gigantic squid (q.v.). It was first described by Pontoppidan, bishop of Bergen in Norway, but other old writers have accounts of substantially the same kind of monster. It is described as of enormous size; rising from the sea like an island about 1½ miles in circumference, with enormous mast-like arms with which it wrecked ships, created whirlpools, and realized all that was prodigious and strange in size, habits and appearance. The kraken stories led to a similar creation by Victor Hugo in his 'Toilers of the Sea,' which, considered zoologically, is almost as far from possible truth as was that of old Pontoppidan.

KRAMBAMBULI, krąm-bām'boo-lē, a Slavic term referring originally to Danzig cherry brandy, concerning which Wittekind (1745) wrote a students' drinking song of lasting and widespread popularity in the colleges. The term has come to define any spirituous drinks at this day.

KRANACH, Lucas. See CRANACH.

KRASICKI, krą-shīk-skē, **Ignacy,** COUNT, Polish poet and writer: b. Dubiecko, 3 Feb. 1735; d. Berlin, 14 March 1801. He was educated at Lemberg and studied at Rome (1760–61). He was appointed Fürstbischof of Ermeland and lived, alternately, at Heilsberg and Warsaw. Becoming a favorite of Frederick the Great at Sansouci, he was appointed archbishop of Gnesen (1795). His 'Fabeln' and 'Satiren' (Warsaw 1779) display irrepressible humor and finished form. The mock heroic poem 'Myszeis' (Warsaw 1778) was translated into the German and French as 'Die Mäuseade' (ib. 1790), and 'La Souriade' (Vilna 1817), respectively, and concerns the legend of King Popiel who was eaten up by mice, and contains allusions to the contemporary political conditions. His 'Monachomachia' (Monks' War), published in 1778, chastises the idleness, lack of learning and drunkenness of certain monastic orders; while his 'Anti-monachomachia' (1780), under the appearance of attempting to soften the rage

brought about by his first work, simply flays in stronger measure. Among his numerous prose works were 'Mikol Doświadczyńskis' (1775), and 'Pan Podstoli' (1778). His collective works were edited by Dmochowski (Warsaw 1803–04); later extended editions were published in Berlin (1845) and Warsaw (1878). His biography, written by Ignacy Krasewski, was published under the title 'Zycie i dziela' (Warsaw 1879).

KRASIŃSKI, krą'shē'ny'-skē, **Zygmunt,** COUNT, Polish poet: b. Paris, 19 Feb. 1812; d. there, 23 Feb. 1859. Son of a general, he was educated at the paternal home, which was a rendezvous for Polish authors and poets, under the tuition of Korzeniovski, an author. In his 14th year he wrote several historical romances in Sir Walter Scott's style. He entered the Warsaw Lyceum (1826), then studied law at the university (1828) but left Poland (1829) on account of the animosities against his father and which he inherited. He traveled through Italy and Switzerland and became acquainted (1830) with Mickiewicz (q.v.) who led him into writing poetry. Along with Mickiewicz and Slowacki he was one of the most notable poets of recent Polish literature. His poems were published under the *noms-de-plume* Konst, Gaszyński, Spiridion Prawdzicki, Ligenza and Mielikowski. First appeared the poetic stories 'Agay Han' (Breslau 1833); then came dramatic poems 'Nieboska Komedya' (Paris 1834); the 'Undivine Comedy,' in which the writer attempts to solve the greatest problems in the political and social spheres. His chief work, 'Irydion' (Paris 1836), is an epic, semi-dramatic poem showing the contrast between the spoiled Rome of the Cæsars and the vengeance planned by enslaved Hellas, described in most glowing colors, allegorical of the suffering Poland. In his 'Przedświt,' 'Dawn' (1843), he praises the moral elements entering into the history of Poland and makes the renaissance of his fatherland depend on morality. His 'Psalmy przyzlości,' the 'Psalms of the Future' (1845–48), glorifies the heroism of martyrdom and brought forth hot opposition, some terming the work "lyric cowardice," and by it he lost the friendship of Slowacki. His works have all been translated into the German and a selection, in three volumes, appeared (Leipzig 1863), the most comprehensive, in four volumes (Lemberg 1880–88). Consult Tarnowski, 'Zygmunt Krasinski' (Cracow 1892); Endler, Anna, 'Sigismondo Krasinski' (in *Nuova Antologia*, 5th series, Rome 1913). His letters were published (Lemberg 1882–90) in four volumes. See IRIDION.

KRASNIK, krās'nĭk, Russian Poland, a town in the government of Lublin and containing an ancient castle. It had a population in 1910 of 9,178. In the World War this was the scene of a prolonged battle in which the Austrians attempting to force their way to Lublin were at first successful but the Russians, reinforced, drove them back into Galicia.

KRASNOYARSK, krās'nŏ-yärsk', capital city of the circuit of same name in the Russo-Siberian government Yeniseisk, located on the Yenisei and on the Trans-Siberian Railway. The name means *red-cliff*, derived from the quality of the marly soil of the river's banks. It is the seat of the governor and its manufactures consist of brick kilns, tannery, soapworks, iron foundry, etc., while its trade is in grain and supplies for the gold washeries of the neighborhood. Pop. 80,102.

KRASNOYE SELO, krās'nō-yĕ sā-lō, Russia, a summer resort in the government of Saint Petersburg, at the foot of the Duderhoff Mountain and situated on the Ligovka River and the Saint Petersburg-Riga Railway. It contains the Imperial palace and park, a church elected by Catherine II and 3,741 inhabitants in 1912. The yearly manœuvres of the Imperial Guard were held here and it was their summer camp.

KRASZEWSKI, krá-shĕf'skē, **Josef Ignacy,** Polish novelist, dramatist and historian: b. Warsaw, 28 July 1812; d. Geneva, 19 March 1887. He was educated in Biala, Lublin and Swisloch and studied history, literature and languages at Vilna University. He was imprisoned (1831–33) for participating in the Polish insurrection, after which he returned to his family estate Dolhe, government Grodno, and rented (1837) the Omelno estate in Volhynia. He went to Schitomir (1853) where he filled several honorary positions, then went to Warsaw (1860) as editor of the *Gazeta codzienna*. Being exiled, for participating in the rebellion, he went to Dresden (1863), becoming a naturalized citizen (1876). In 1884 he was sentenced, at Leipzig, to three and a half years' imprisonment for high treason, but was permitted six months' absence (1885) to recover his health. He traveled to Switzerland and Italy but never returned. At Cracow he was banished and died at Geneva. He was the most prolific of Polish writers, entering every branch of literature in prose and poetry, but his most substantial success lay in his romances. His stories, that have made up a total of 400 volumes, may be divided into two categories; up to 1863 dealing with social matters, then entering the realm of politics. Of his first works 'Pan Walery' (Vilna 1831) and a few following the world took little notice, but his novel 'Poeta i świat'— the Poet and the World (Posen 1839) made him the pet of the Polish public. To the novels of the first period belong 'Ulana' (Vilna 1843); 'Kordecki' (ib. 1852); 'Chata za wsia' (Saint Petersburg 1854–55). His political novels, written under the pseudonym Boleslavita, include 'Dziecie, starego miasta,' attractively relates the preparations that were made for the 1863 insurrection; 'The Spy' was translated into German as 'Der Spion' (Dresden 1864) as were also 'The Pair'; 'The Moscovite'; 'The Jew'; 'In the East,' etc. Among his historical novels we find 'Count Brühl' (1865); 'Countess Cosel' (1874), etc. Of his cultural novels of the second period should be mentioned 'Morituri' (1874–75), and 'Resurrecturi' (1876), both translated into German in Reclam's *Universal-Bibliothek*. Of his poetical works should be mentioned 'Anafielas' (Vilna 1843–45), concerning the ancient history of Lithuania, and 'Hymny bolesći' (Paris 1857). Most important of his dramatical works are the comedy 'Miód Kasztelanski' (Kief 1860) and the historical drama 'Trzeci maja' (Cracow 1876). His literary-historical dissertations were issued collectively, in part, as 'Studja literackie'

(Vilna 1842) and 'Nowe studja literacki' (Warsaw 1843). Of his histories must be cited his 'History of Vilna' (1750); 'Litwa' (Warsaw 1847–50), concerning ancient monuments of Lithuania. Besides which he wrote many philosophical, æsthetic art and archæological treatises. Consult Bohdanowicz, 'J. I. von Kraszewski in seinem Wirken und seine Werken' (Leipzig 1879).

KRAUSE, krou'zĕ, **Ernst Ludwig,** German writer: b. Zielenzig, 22 Nov. 1839; d. 1903. He studied pharmacy, but after passing the state examinations he turned to the study of natural history and the history of civilization. He settled in Berlin (1886) and advanced the new Darwinian theory of life, especially through his connection with Darwin and Hæckel in the publication of the monthly journal *Kosmos* (Leipzig 1877–82). He wrote numerous articles to the newspapers and periodicals that raised deep interest and caused deeper research, as did that concerning the color sense of primitive peoples. His historical studies led him to the recognition that Charles Darwin's grandfather, Erasmus Darwin, the English physician and poet, originated the theory of the descent of man. He wrote under the pseudonym Carus Sterne. Among his more important works are 'Werden und Vergehen: Eine Entwickelungsgeschichte des Naturganzen' (Berlin 1876; 6th ed., 1905); 'Sommerblumen' (Leipzig 1884); 'Herbst und Winterblumen' (ib. 1885); 'Die Krone der Schöpfung' (Teschen 1884); 'Ch. Darwin und sein Verhältniss zu Deutschland' (Leipzig 1885); 'Die allgemeine Weltanschauung in ihrer historischen Entwickelung' (Stuttgart 1889); 'Natur und Kunst' (Berlin 1891); 'Die Trojaburgen Nordeuropas' (Glogau 1893); 'Die nordische Herkunft der Trojasage' (ib. 1893); 'Geschichte der biologischen Wissenschaft in 19ten Jahrhundert' (Berlin 1901).

KRAUSE, Karl Christian Friedrich, German philosopher and writer: b. Eisenberg, 6 May 1781; d. Munich, 27 Sept. 1832. He studied philosophy at Jena under Fichte and Schelling and took his degree (1802) as private teacher (*docent*), becoming instructor at the Dresden Academy of Engineering (1805). He returned to Berlin (1814) after Fichte's death, but settled in Göttingen (1824), as private teacher without gaining the professorial degree. In 1831 he removed to Munich but without accomplishing his desire of a professorship. He was a prolific writer as he had to care for a large family. He was the originator of a philosophical system all his own, which he differentiated from that of the Schelling-Hegel Pantheismus (all-God doctrine) with the name Panentheismus (all-in-God doctrine) and defined as the union of Absolutism, of Schelling-Hegel, with the Subjectivism, of Kant-Fichte. He contended that the duty of man was to combine in one single union (*Bund*) composed of an organism of branch unions, each member and branch belonging, fully and harmoniously, a part of the living whole. He hoped to gain advance in his propaganda by joining the Freemasons (1805), in which organization he thought he saw certain fundamental social features coinciding with his theories, and he wrote a number of articles on Freemasonry, but his expressed theories brought him into contest with the fraternity and he was expelled (1810). Among his followers were, Ahrens, Leonhardi, Lindemann, Roeder, etc., who spread the philosophical tenets through Belgium, Spain and South America. Foremost of his published works are 'Abriss des Systems der Logik als philosophischer Wissenschaft' (Göttingen 1828); 'Vorlesungen über das System der Philosophie' (ib. 1828); 'Abriss des Systems der Philosophie des Rechts' (ib. 1828); 'Vorlesungen über die Grundwahrheiten der Wissenschaft' (ib. 1829). Since his death a large mass of his unpublished manuscripts have been issued in numerous volumes by Leonhardi, Leutbecher and others (Göttingen 1834–48), by Röder ('System der Rechtsphilosophie,' Leipzig 1874) and more recently by Hohlfelts. Consult Hohfeld, 'Die Krausesche Philosophie' (Jena 1879); Procksch, 'Karl Christian Friedrich Krause, ein Lebensbild nach seinen Briefen' (Leipzig 1880); Eucken, 'Zur Errinnerung an Krause' (ib. 1881); Martin, 'Chr. F. Krauses Leben, Lehre und Bedeutung' (ib. 1881); Leonhardi, 'K. Chr. Friedr. Krauses Leben und Lehre' (ib. 1902), and 'K. Chr. F. Krause als philosophischer Denker gewürdigkeit' (ib. 1905); Kohler, 'Der Philosoph Krause als Geograph' (ib. 1904).

KRAUTH, krouth, **Charles Porterfield,** American Lutheran theologian: b. Martinsburg, Va., 17 March 1823; d. Philadelphia, 2 Jan. 1883. He was graduated (1839) at Pennsylvania College and was given charge (1841) of a Baltimore mission. He served congregations (1842–55) at Baltimore, Martinsburg and Winchester, Va. He was appointed minister (1855) of the Pittsburgh First Lutheran Church and (1859) at the Philadelphia Saint Mark's Church. He became editor of *The Lutheran.* He composed the "Fundamental Articles of Faith and Church Polity" (1866) which was adopted at the Reading Convention, as basis of the General Council of the Evangelical Lutheran Church in North America, also the "Constitution for Congregations" (1880) adopted by the General Council. He was for 10 years president of the council. He was elected a trustee of the University of Pennsylvania and (1868) professor there of mental and moral philosophy, and undertook the department of history there in 1881. He was a member of the American Committee for the revision of the English version of the Bible. He wrote 'The Conservative Reformation and its Theology' (1872); translations of Tholuck's commentary on the gospel of Saint John (Philadelphia 1859); of the Augsburg Confession, with introduction and annotations (1868). He edited a new edition of Berkeley's 'Principles of Human Knowledge' (1874). Consult Spaeth, A., 'Charles Porterfield Krauth' (New York 1898); Schmucker, B. M., in *Lutheran Church Review,* July 1883.

KREATINE, or **CREATINE,** methylglycocyamin methylguanadinaceticacid, $C_4H_9N_3O_2$ or

$$NH{=}C\begin{matrix}NH_2\\ N(CH_3).\ CH_2.\ COOH\end{matrix}$$

An organic substance found in the muscular fibre of all vertebrates, it is present also in the

brain, urine, blood and in meat-extract. It occurs synthetically in combining sarcosine with cyanamide, and forms colorless and odorless crystals with one molecule water of crystallization, tastes slightly bitter and is water soluble barely in alcohol. Its reaction is neutral, producing with acids unstable salts and creates: with the action of baryta water on bones, uric acid and sarcosine; with oxide of quicksilver methylguaridine and oxalic acid, with weak acid solutions kreatinine (q.v.).

KREATININE, or **CREATININE,** methylglycocyamidin, $C_4H_7N_3O$ or

$$NH{=}C\begin{matrix}NH{-}CO\\ N(CH_3).\ CH_2\end{matrix}$$

This organic substance is found in urine. It forms colorless and odorless crystals, is slightly soluble in water and alcohol, tastes ammoniacal, has strong alkaline reaction. It forms crystallizable salts and is transformed by basic action easily back to kreatine (q.v.). It was formerly held as very valuable for nourishing qualities on account of its nitrogenous composition, but it is known now it belongs to the waste of the organs and, with slight changes, passes into the excreta.

KREFELD, krā'fĕld, or **CREFELD,** Prussia, a town in the government of Düsseldorf, 12 miles northwest of the town of Düsseldorf, about four miles west of the Rhine and 35 miles northwest of Cologne. It consists of straight, spacious streets and well-built houses; is the seat of several courts and public offices; contains churches for Roman Catholics, Old Catholics, Protestants, Mennonites and Jews; a royal textile college, gymnasia, a monument of Moltke erected in 1897, hospitals, etc.; and is the principal locality in Prussia for the manufacture of silk and mixed silk goods, which was introduced by refugees from Juliers and Berg in the 17th and 18th centuries. The number of factories producing silk goods is about 120, exclusive of nearly 50 silk-dyeing works. The town also contains railroad shops, boiler-works, machine-shops, iron-foundries, chemical works, distilleries, sugar-refineries, soap-works, tanneries, paper-mills, etc. Krefeld dates from 1166: it came into the possession of Prussia in 1702; it was occupied by the French during the Napoleonic ascendency. During the Great European War 1914–18, in common with other Rhenish towns its war industrial works were frequently bombarded by Allied aviators. Pop. 129,400.

KREHBIEL, krā'bēl, **Henry Edward,** American musical critic: b. Ann Arbor, Mich., 10 March 1854. He was musical critic on the Cincinnati *Gazette* (1874–80) and the New York *Tribune* since 1880. His published works include 'The Technics of Violin Playing' (1880); 'How to listen to Music' (1896); 'Studies in the Wagnerian Drama' (1891); 'The Philharmonic Society of New York: a Memorial' (1892); 'Music and Manners in the Classical Period' (1898); 'Music of the Modern World' (1897); 'How to Listen to Music' (1896); 'Chapters of Opera' (1908); 'The Pianoforte and its Music' (1910); 'Afro-American Folk-Songs' (1913); 'A Book of Operas' (1909). He also edited an 'Annotated Bibliography of Fine Art' (1897). He was American editor of the new edition of Groves' 'Dictionary of Music and Musicians' (1904–10).

KREIL, kril, **Karl,** Austrian meteorologist and astronomer: b. Ried, 4 Nov. 1798; d. Vienna, 21 Dec. 1862. He studied law and astronomy, and was appointed (1827) assistant at the Vienna Observatory, then acted successively at the Milan (1831) and the Prague observatories (1845). He became (1851) director of the Central Institute of Meteorology and the Earth's Magnetism, Vienna. Numerous magnetic and geographical observations were made by him, and he improved the magnetic instruments as well as constructing a series of automatic registering instruments. He wrote 'Cenni storici e teoretici sulle comete' (Milan 1832); 'Versuch, den Einfluss des Mondes auf den atmosphärischen Zustand unsrer Erde zu erkennen' (Prague 1841), establishing by his researches that the moon had little, if any, influence on the earth's magnetism; 'Ueber die Natur und Bewegung der Kometen' (ib. 1843). He published *Astronomisch-meteorologische Jahrbuch für Prag* (Prague 1842–45) and the *Jahrbücher der Zentralanstalt für Meteoroligie und Erdmagnetismus* (from 1849 on).

KREITTMAYR, krīt'mīr, **Wiguläus Xavier Aloys,** Baron von, Bavarian jurist and statesman: b. Munich, 14 Dec. 1705; d. 27 Oct. 1790. He practised law in Wetzlar in the Supreme Court and was made Aulic councillor (1725) at Munich. He was appointed judge-lateral of the Court of Justice, Bavarian Palatinate, of the Imperial Vice-Regency (1741) and was created (1745) a baron of the empire. He became chancellor of the Aulic Council and privy councillor, to be promoted (1749) vice-councillor of the Privy Council and a Minister of the Cabinet, in which position he died. The most important branches of Bavarian law were codified by him in such works as 'Codex juris bavarici criminalis' (Munich 1751); 'Codex juris bavarici judiciarii' (ib. 1753); Codex Maximilianus bavaricus civilis' (ib. 1756). These were followed and enhanced by «Annotations» to each part (1752–68). He also wrote 'Grundriss der allgemeinen deutschen und bayrischen Staatsrechts' (Munich 1770). In 1845 a monument was erected to his memory. His biography was written by J. A. Kalb (Munich 1825). Consult Bechmann, A., 'Der kurbayrischer Kanzler Alois Freiherr von Kreittmayr' (Munich 1896).

KRELING, krā'lĭng, **August von,** German sculptor and painter: b. Osnabrück, 23 May 1819; d. Nuremberg, 23 April 1876. He studied at the Hanover Polytechnic, and, at the age of 17, was a pupil of Schwanthaler at Munich, but soon devoted himself to painting. His first important work was the ceiling decoration at the Hanover Court Theatre. In 1853 he was appointed to reorganize the Nuremberg school of art, during which work he painted the Coronation of Ludwig of Bavaria in the Maximilianeum at Munich, and drew the cartoons for the pictures of German emperors, as well as a cycle of pictures from the traditions of Karl der Grosse. For his great service in advancing the arts and crafts he was honored with civil Order of Merit. He modeled the colossal bronze statues of Prince Heinrich of Reuss, at Gera,

and of Kepler, at Weil, and a great fountain which was presented to Cincinnati by Mr. Probasco.

KRELL, or **CRELL, Nikolaus,** Saxon chancellor and anti-Lutheran reformer: b. Leipzig, about 1551; d. 9 Oct. 1601. He studied law and was appointed Aulic councillor at Dresden and secretary to the Elector Christian, who, on his accession to the throne (1586), made him privy councillor and (1589) chancellor. His opposition to the orthodox Lutheran Church and leaning toward Calvinism brought the hatred of the citizens and members of the court. By his introduction of a new catechism and edition of the Bible with his Calvinistic glossary he brought about his downfall when Friedrich Wilhelm von Weimar succeeded the deceased Christian. Involved in the meshes of law he was imprisoned and after much litigation between the higher powers of the different states he was finally condemned to death and was beheaded at Dresden. Consult Richard, 'Der Kurfürstliche sächsische Kanzler Nikolaus Crell' (Dresden 1859); Brandes, 'Der Kranzler Crell, ein Opfer des Orthodoxismus' (Leipzig 1873).

KREMENETZ, krĕm'yĕ-nyĕts, Russia, a district town in the government of Volhynia, situated on the Ikva River and a branch of the South-West Railway. It has six churches, is the seat of the chief magistracy of the Radzivilou customs division. Above the town on a sandstone cliff are the ruins of an ancient castle. The town dates back to the 8th century, belonging formerly to the principality Vladimir but was included in Poland; it was fortified by Sigismond I but was captured (1648) by a small body of Cossacks in revenge for persecution on account of their fidelity to Poland. It is a very fertile district. Its population is about 18,752 with about one-third Jews.

KREMENTCHUG, krĕm'ĕn-choog', Russia, district town in the government of Poltava, situated on the Dnieper River and junction of two railways. It has an iron railway bridge, nine Greek-Catholic churches, three churches of sectarians, a Lutheran prayer house, three synagogues, a high school, girls' progymnasium, several banks; also numerous manufactures as sawmills, tobacco factories, etc. It does considerable trade in grain and wood and holds four annual markets. The town was founded 1571 and was, from 1765–89, the capital of New Russia. It has a suburb across the river called Krukow. Together they had about 98,652 inhabitants, of whom nearly half were Jews.

KREMERS, krē'mērz, **Edward,** American pharmacist: b. Milwaukee, Wis., 23 Feb. 1865. He studied at the University of Wisconsin, receiving the degree Ph.G. (1886) and B.S. (1888), and Ph.D. at the Göttingen University (1890). He was appointed instructor of pharmacy at the University of Wisconsin (1890–92), professor of pharmaceutical chemistry and director of a course in pharmacy from 1892, and director of the Pharmaceutical Experiment Station from 1913. He was editor of the *Pharmaceutical Review* (1896–1909), scientific editor of the *Midland Druggist and Pharmaceutical Review* (1909–10), coeditor *Standard National Dispensary,* etc. In collaboration with Gildemeister and Hoffmann, he compiled 'The Volatile Oils' (1900; 2d ed., 1913).

KREMLIN, a Russian citadel, especially the citadel of Moscow (q.v.). It lies in the centre of the city, and contains the royal edifices and churches, particularly the residence of the emperor.

KREMNITZ, Marie (Mite), German author: b. Greifswald, 4 Jan. 1852. She married and moved to Bucharest (1875), where she became acquainted with the Rumanian queen (Carmen Sylva). She removed to Berlin (1897) and settled there. In collaboration with Carmen Sylva she published the 'Rumänischen Dichtungen' (3d ed., translation Bonn 1889), and under the pseudonym Dito und Idem the following novels: 'Aus zwei Welten' (Leipzig 1884; 7th ed., Bonn 1901); 'Astra' (Bonn 1886; 6th ed., 1903); 'Feldpost' (ib. 1887); and the tragedy 'Anna Boleyn' (ib. 1886); also 'In der Irre' (ib. 1888), and 'Rache, und andre Novellen' (ib. 1889), stories. Individually she wrote 'Rumänische Skizzen' (Bucharest 1877); 'Rumänische Märchen' (Leipzig 1882); 'Carmen Sylva ein Lebensbild' (Breslau 1882); an extensive biography, 'Carmen Sylva' (Leipzig 1903). She also wrote the novel 'Ausgewanderte' (Bonn 1890), and the stories 'Elina: Zwischen Kirche und Pastorat' (Breslau 1895); 'Sein Brief' (ib. 1896); 'Herr Baby' (ib. 1901); 'Mann und Weib' (ib. 1902); 'Fatum' (ib. 1903). Under the pseudonym George Allan she wrote 'Fluch der Liebe' (Leipzig 1880), and other stories as well as the novels, 'Aus der Rumänischen Gesellschaft' (ib. 1881), and 'Ein Fürstenkind' (ib. 1883).

KREMNITZ, krĕm'nĭts, or **CREMNITZ,** Hungary, a royal free town (called in Hungarian Körmöczbánya), in the county of Bars, in a deep valley surrounded by lofty hills, 15 miles northeast of Schemnitz. It consists of the town proper, surrounded by walls, and containing two ancient churches and a castle; and of several large suburbs, in which are almost all the public buildings. There are some old churches, a Franciscan monastery of the 17th century, a mint, hospitals, etc. The manufactures consist of paper, delft-ware, vitriol and cinnabar; but the prosperity of the town depends chiefly on the gold and silver mines in the vicinity. Pop. 4,515.

KREMS, krĕms, Austria, a town on the confluence of the rivers Krems and Danube and on two branches of the State Railway, one of which crosses the Danube here on a great bridge. It is the official seat of the district and has four churches, a town-hall with archives, monuments to Joseph II and General Schmidt, an obergymnasium, upper high school, trade school, teachers' institute, wine and fruit industrial schools, Piarist College, lady-teachers' institute, city museum, theatre, savings bank, etc. Among its various manufactures are breweries and mustard, cognac, preserves, chocolate, coffee-substitute, machine, mill, garden tool and other factories. Pop. 14,384.

KREMSIER, Austria, a town in Moravia, 37 miles from Brünn by rail, situated in the fertile Hanna region, on the March and on two railways. It is the official seat of the district, has a Collegiate church, archbishop's palace, finished 1711, library, great park and menagerie, a German and a Czech obergymnasium, German and Czech national upper high school, archie-

piscopal boys' seminary, teachers' institute, agricultural school, etc. Its manufactures consist of machinery, iron foundries, two malt factories, two breweries, sugar factory, electric works, and it does considerable trade in barley, fruit, cattle, etc. In 1110 it was one of the estates of the 1,063 newly formed bishoprics of Olmütz by the purchase of the Olmütz Count Otto, and obtained town rights through Bishop Bruno (1266) and Bishop Theodor (1290), becoming the episcopal residence. It was besieged and stormed by the Swedes, in 1643, and burned. During the 1848 insurrection the Reichstag was held here. Pop. 16,528, chiefly Czechs.

KRENNERITE. A rare mineral consisting of telluride of gold and silver in orthorhombic form. Composition variable (AuAg) Te_2. Carries 43.86 per cent of gold and a very small amount of silver. Occurs in mines of Cripple Creek, Colo.

KRESTOVSKI, krĕs-tŏf'skĭ, **V.,** the pseudonym of Nadezhda Dmitrievna Khvoshtchinskaya, one of the most noted of Russian women novelists and writers: b. Ryazan, 1825; d. 1889. See KHVOSHTCHINSKAYA, NADEZHDA DMITRIEVNA.

KRETSCHMAR, krĕch'mär, **August Ferdinand Hermann,** German musician: b. Olbernhau, 19 Jan. 1848. He graduated at the Leipzig Conservatory, was appointed (1876) bandmaster at the opera house at Metz, became (1887) music director at the Leipzig University, and was called to Berlin (1904) where he became professor of the history of music for the state. He wrote numerous choral and organ pieces and many monographs, essays on the lives of noted musicians, etc. His 'Führer durch den Konzertsaal' (3 vols., Leipzig 1887–90) is highly praised.

KRETSCHMER, krĕch'mĕr, **Edmund,** German musician and composer: b. Ostritz, 31 Aug. 1830; d. 1908. He was a pupil of Julius Otto and Johann Schneider at Dresden and was appointed court organist there (1854). He became (1872) instructor of the royal Kapellknabeninstituts and was leader of a number of choral unions. In 1892 he was given the degree of professor. He first became favorably known as a composer by his opera 'Die Folkunger' (1874) that was followed by 'Heinrich der Löwe' (1877); 'Der Flüchtling' (1881); and 'Schön Rothraut' (1887). He also wrote several Masses and other church compositions, also profane choir pieces, such as 'Pilgerfahrt,' 'Festgesang,' 'Sieg im Gesang.' His 'Geisterschlacht,' written for a man's choir with orchestra, won a first prize. Consult Schmid, O., 'Edmund Kretschmer' (Dresden 1890).

KRETSCHMER, Paul W., German philologist: b. Berlin, 2 June 1866. He studied at the Luisenstadt gymnasium and the Berlin University, becoming private teacher (*docent*) there (1891). He became assistant professor (1897) at Marburg University, and professor (1899) at the Vienna University. He traveled in Greece (1896–1901) and write 'Griechischen Vaseninschriften' (1894); 'Einleitung in der Geschichte der griechischen Sprache' (1896); 'Entstehung der Koine' (1900); 'Die heutige Lesbische Dialekt' (1905). He was editor of *Glotta,* a periodical in the Greek and Latin languages, from 1907 and is member of the Imperial Academy of Science of Vienna.

KRETZER, krĕt'sĕr, **Max,** German novelist: b. Posen, 7 June 1854. He went to Berlin at an early age and worked in various capacities, as a factory laborer, a house painter, etc. He met with an accident, and during the period of convalescence began to write, becoming one of the most popular German novelists for a time. His naturalistic novels dealing with the common people of Berlin are interesting pictures of contemporary life. The best are 'Die beiden Genossen' (1880); 'Die Betrogenen' (1882); 'Im Sturmwind des Sozialismus' (1883); 'Meister Timpe' (1888).

KREUTZER, kroi'tsĕr, **Konradin,** German composer: b. Messkirch, Baden, 22 Nov. 1780; d. Riga, 14 Dec. 1849. He studied law at first but produced an operetta (1800) that was played while he was a student at Freiburg, and he then undertook the study of counterpoint (1804) under Albrechtsberger at Vienna. He was appointed bandmaster (1812) at Stuttgart and (1817) filled the same position for Count von Furstenberg in Donaueschingen. In 1822 he returned to Vienna where he became bandmaster of the Kärntnerthor Theatre, after the successful production of his opera 'Libussa.' He filled the same post successively at the Josephstädter Theatre (till 1840), then at the Cologne Stadttheatre (till 1846), when he returned to Vienna. He wrote 30 operas of which only 'Nachtlager zu Granada' (1834) and Raimund's 'Verschwender,' for which he wrote the score, have remained popular. On the other hand his male choruses are still pet pieces with the *Vereine.* A monument to his memory has been erected in his birthplace.

KREUTZER, Rodolphe, French violinist and composer: b. Versailles, 16 Nov. 1766; d. Geneva, 6 Jan. 1831. He studied the violin under Anton Stamitz, under whom he was perfected and was able to appear in public in his 13th year. He became solo-violinist in the Italian theatre orchestra (1790) where he produced his first opera, 'Jeanne d'Arc' in the same year, to be followed by 39 other dramatic works such as 'Paul and Virginia'; 'Lodoiska' (1701); 'Werther' (1792), etc. Following a tour through Italy and Germany (1796) he was appointed teacher of the violin at the Paris Conservatoire. In 1801 he took Rode's place as solo-violinst at the Grand Opera, and (1817) became its bandmaster till his retirement in great honor (1826). Of his many compositions only those for the violin have survived to this day in popularity, among which his '40 Etudes ou Caprices' is a necessity in training a violinst. Beethoven dedicated his 'Kreutzer Sonata' to him.

KREUTZER SONATA, the popular title of Beethoven's Sonata for piano and violin in A, op. 47, dedicated to his friend R. Kreutzer, and played first in 1803. Leo Tolstoy, the Russian reformer and author, used the title for one of his novels, published in 1880, in which he placed the modern conventional marriage in a hideous light. It caused bitter debate for a rather prolonged period.

KREUTZNACH, kroits'nagh, Prussia, district town and popular bathing resort in the jurisdiction of Coblenz, situated on the Nahe

and junction of several railways. It was formerly capital of the County Sponheim and consists of a new and old city; it has a Kursaal, or bathing establishment on an island, also the medicinal salt springs, Elizabeth-Quelle and others. The mineral waters of this location have been known since 1478 as having curative qualifications in skin diseases. In the near neighborhood is the ruin of an ancient Roman castrum, the so-called "heathen wall." It has two Evangelical and three Catholic churches, synagogues, a marble statue to the sanitary professor Prieger, considered founder of the baths, a war memorial, Bismarck fountain and other monuments. Among the leading manufactures are tanneries, tobacco, leather, comb and glass factories, marble works and vineyards and considerable grain trade. It has among its public buildings a gymnasium, high school, provincial wine and fruit, industrial schools, a collection of antiquities, etc. Pop. 23,167.

KRIEGSPIEL, krēg'spēl, ("war-game"), a game of German origin, played with maps on a large scale, and colored metal blocks, on the same scale as the map, representing bodies of troops of various strength (brigades of infantry, battalions of rifles, regiments of cavalry, besides artillery, engineers, etc.). The players are usually two on each side, and the game forms an exact miniature of tactical operations. It is played by alternate moves; each move represents the lapse of two minutes, and rules are given to determine the distance that each branch of the service may move over in that time. When two bodies of men on opposite sides come into contact, the weaker in numbers and position is held to be defeated; but when they are equal in these respects victory is determined to one side or the other by the use of a die. A game of the same name has been introduced in chess clubs, the contestants playing on different boards screened from view of their opponents, and being obliged to guess from certain arbitrary conditions what moves are made on the other board.

KRIEHN, krēn, **George,** American professor and art lecturer: b. Lexington, Mo., 1868. He received his education at the Wentworth Military Academy, Lexington, the William Jewell College, Liberty, Mo., and at the universities of Berlin, Freiburg, Zürich and Strassburg. From 1892 to 1895 he was instructor in history at the University of Johns Hopkins, and from 1895 to 1898 was assistant professor at Stanford University, California. Since 1898 he has become widely known as a writer and lecturer on art subjects, and since 1908 has been instructor in the history of art at the Woman's Art School of Cooper Union, New York. Since 1910 he has been lecturer in the Department of Extension Teaching of Columbia University. In 1911–12 he was preceptor at the University of Princeton and in the same years lectured at the Catholic Summer School of America, Plattsburgh, N. Y. He is a member of the American Historical Association and of the Metropolitan Museum of Art and secretary of the department of fine arts of the Brooklyn Institute of Arts and Sciences. He has published 'English Rising in 1450' (1892); 'Studies in the Social Revolt of 1381' (1902); a translation of Muther, 'History of Painting' (2 vols., 1909), and numerous articles in encyclopædias, periodicals, etc.

KRIEKER, krē'kėr, a gunner's name for jacksnipe (q.v.).

KRIS. See CREESE.

KRISHNA, krish'na, in Hindu mythology, the eighth avatar of Vishnu and the most popular deity in the Hindu pantheon. Krishna is regarded as an incarnation of Vishnu (q.v.). In the 'Bhagavad Gita' he stands as revealing the doctrine of "bhakti" (religious devotion). At the close of the 15th century two East Indian teachers — Chaitanya and Vallabha — established sects in worship of Krishna. A modern teacher who has advocated Krishna doctrines is Swami Harayan of Gujurat. See AVATAR; HINDUISM.

KRIS KRINGLE, a sort of Saint Nicholas. On Christmas eve, Kris Kringle, arrayed in a fur cap and strange apparel, goes to the bedroom of all good children, where he finds a stocking or sock hung up in expectation of his visit, in which depository he leaves a present for the young wearer. The word means Christchild, and the eve is called Kriss-Kringle eve. See SAINT NICHOLAS.

KROEBER, krō'bėr, **Alfred L.,** American anthropoligist: b. Hoboken, N. J., 11 June 1876. He was graduated (1896) at Columbia University, receiving the Ph.D. diploma (1901) and was appointed instructor (1901–06) at the University of California, became assistant professor of anthropology (1906–11), associate professor in 1911. He was curator of anthropology at the California Academy of Sciences in 1900 and 1903–11 and curator of the Museum of Anthropology from 1908. He was founder of the American Anthropological Association, becoming its president in 1917. In 1906 he was president of the California branch of the American Folklore Society and is corresponding member of the Anthropological Society, Washington, member of the American Ethnological Society of Japan, Fellow of the American Academy of Arts and Sciences. He has been a frequent contributor to the periodicals on the subjects anthropology, folklore, etc.

KROL, crūl, **Sebastian Jansen (Bastiaein Jansz Krol),** church officer, commissary and vice-director in New Netherland: b. Harlingen 1595; d. after 1645. Appointed in Holland by the Classis of Amsterdam, 12 Oct. 1623, he sailed 25 Jan. 1624. In November of same year he was in Holland again pleading for ministers to serve in the new colony. In 1625 he was again in New Netherland, as "Krankenbezoeker" or comforter of the sick, whose office in the Reformed Church was to minister to the poor, to those in sickness or trouble, or in absence of the "voorsanger" (precentor) to read from the desk under the pulpit the commandments and the creed, and to marry the living or bury the dead. In many cases these officers read sermons and conducted divine service when there was no minister. For over two centuries this functionary was regularly supplied by the Classis of Amsterdam for the Dutch churches in the West and East Indies. Krol, with great efficiency, labored at Fort Orange (Albany), in behalf of the West India Company, to make the settlement of the Walloons and Dutch successful. In 1628, under Domine Michaelius, he was made an elder and member of the Consistory of the Reformed Dutch (now the Collegiate on Fifth avenue)

Church inside the fort, on Manhattan. He crossed the ocean four or five times and acted as agent for Van Rensselaer in his manor. According to local tradition, during one winter, when provisions were scarce, he made a nourishing and palatable fried cake of flour and honey, which took its name from his, the cruller. The word is unknown in Holland and the pronunciation, very similar in the personal name and the actual thing, points to the probable origin of this American delicacy. On Van Twiller's arrival, in 1633, he was succeeded in the command of Fort Orange by Hans Jorissen Houten. On 28 Sept. 1645 he was at holy communion in the church in Amsterdam, Holland. A handsome memorial of this zealous and efficient pioneer has been erected in the Reformed Church edifice on Second avenue in New York. Consult Van Laer, the 'Van Rensselaer-Bower Manuscripts,' published by the State (1906); and Eckhoff, 'Bastiaen Jansz. Krol' (1910); Hofstede, 'Oost Indien Kerk-Zaken,' Rotterdam (1779), and 'Ecclesiastical Records of the State of New York' (1901).

KROLL, krôl, **Wilhelm,** German classical scholar: b. Frankenstein, Silesia, 7 Oct. 1869. He studied at Breslau, Berlin and Bonn, and, after a journey through Italy and Sicily, he entered the faculty at Breslau University, for classical philology. He was made professor at Greifswald (1899), Münster (1906) and Breslau (1913). He contributed numerous essays to the *Rheinisches Museum, Jahresberichte über die Fortschritte der Altertumswissenschaft, Glotta,* and the *Realenzyklopädie* of Pauly-Wissowa. He edited the 6th edition of Teuffel's 'Geschichte der Römischen Literatur' (1910–13). Among his other works are 'Antiker Aberglaube' (1897); 'Die Altertumswissenschaft im letzten Vierteljahrhundert' (1905); 'Geschichte der klassischen Philologie' (1908).

KROMAYER, krō'mī'ĕr, **Johannes,** German historian of ancient battles: b. Stralsund, 31 July 1859. He studied at Stralsund, Metz, Weissenberg and at the universities of Jena and Strassburg. He was appointed as teacher at the gymnasiums of Strassburg, Thann and Metz and then traveled through Italy and Greece (1887–88). In 1898 he became teacher at the Kaiser-Wilhelm University, Strassburg, but headed the scientific expedition in Greece and Turkey making research of the ancient battlefields (1900), and a similar expedition to Italy and North Africa (1907). He was appointed professor of ancient history at the Czernowitz University (1901) and filled the same post at Leipzig (1913). He wrote 'Antike Schlachtfelde' (1902–11); 'Roms Kampf um die Weltherrschaft' (1912).

KRONBERG, krōn'bär-g', **Julius,** Swedish painter: b. Karlskrona, 11 Dec. 1850. He studied at the Stockholm Academy of Art and gained a scholarship which permitted him to visit Düsseldorf, Paris, Munich and Rome. Upon his return he made his reputation with his biblical, mythological and historical pictures and became the leading colorist. His principal works are 'Death of Cleopatra'; 'David and Saul' (1885), in the Stockholm National Gallery; 'Romeo and Juliet'; 'Queen of Sheba'; 'Hypatia,' and the ceiling decoration of the Treppenhaus of the Royal Palace, Stockholm (1890–92). He was elected member of the Stockholm Academy of Art (1881) and was made professor in 1885.

KRONBERG, Louis, American painter: b. Boston, 20 Dec. 1872. He studied art at the Boston Museum of Fine Arts, the Art Students' League, New York, and the Académie Julien, Paris. He is instructor of the portrait class of the Copley Society, Boston, received the silver medal of the Massachusetts Charitable Association and the Longfellow Traveling scholarship. His works have been exhibited at the Paris Exposition (1900) and are represented in the permanent collections of the Pennsylvania Academy of Fine Arts, Philadelphia ('Behind the Footlights'); New York Metropolitan Museum of Art ('The Pink Sash'); Boston Museum of Fine Arts, etc. Other works of his are in the private collections of Mrs. J. L. Gardner and F. Gair Macomber.

KRONECKER, krō'nĕk-ĕr, **Leopold,** German mathematician: b. Liegnitz, 7 Dec. 1823; d. Berlin, 29 Dec. 1891. He studied at Berlin, Bonn, Breslau and took his degree (1845) in Berlin, when he returned to Liegnitz. He was made a member of the Berlin Academy of Science (1860) and held lectures at the university (1861). In 1883 he was made professor of mathematics of the university. He did exceptional service in the advancement and systematizing of algebra, and his graduates' feast essay, 'Grundzüge einer rein arithmetischen Theorie der algebraischen Grössen' (Berlin 1882), is of lasting value. He edited, at first with Weierstrass, later alone, Crelle's *Journal für Mathematik,* and commenced publishing the works of Lejeune Dirichlet at the request of the Academy. His 'Vorlesungen über Mathematik' were collected and published by Hensel and Netto in parts. The attempt he made to abolish irrational numbers and fractions reducing the science to whole numbers altogether is quite interesting. His biography by H. Weber is in *Jahresbericht der deutschen Mathematiker vereinigung* (Berlin 1893).

KRONES, krō'nĕs, **Therese,** Austrian actress: b. Freudenthal, 7 Oct. 1801; d. Vienna, 28 Dec. 1830. She became a member of the Leopoldstädter Theatre, Vienna (1821), after numerous engagements at provincial theatres. She learned greatly to improve her technique here through playing with Raimund, and, being of a lively and cheerful temperament, besides possessing graceful form, she became a great favorite in comedies and national plays. Several plays were written by her, such as 'Sylphide,' 'Nebelgeist,' etc. Her life figures in a novel by Bäuerle and in a play by Haffner.

KRONSTADT, krōn'stat, or **CRONSTADT,** Hungary, called by Hungarians Brassó, a town in the county of the same name in Transylvania, junction of four railways and most picturesquely situated. It is wedged in by a valley gorge of the Schuler Mountains, open only on the northwest. In front of the mouth of the gorge rises the Schlossberg, an old fortification or citadel dating back to 1554. The suburbs lie in small neighboring ravines, some built on terraces. In the middle of the old former fortified central city is the cathedral erected under King Sigismond (1385–1425) in imposing Gothic style, but serving now as an

Evangelical parish church and termed locally the "black church," on account of its charred walls; its gigantic organ contains 4,060 pipes. The triangular market place contains the ancient town-hall with its archives, erected 1420 and renovated (1770) in Baroque style; also the great Kaufhaus, built 1545. There is also a Catholic parsonage in Italian style, a Rumanian church in Byzantine style, besides several other Catholic, Evangelical and Grecian churches and a Reformed church. Other prominent public edifices are the Franciscan monastery, the Treasury building, etc. There are monuments erected in memory of Honterus, one to Bishop Teutsch and the Millennium monument. Its population was about 41,056, of whom most are Magyars, the remainder Wallachs, Saxons, Greeks and other Orientals. Considerable commerce is carried on, the metal and wood industries being important. There are manufactures of earthenware, bed-coverings, cement, leather, paper, as well as sugar and petroleum refineries. Among its institutions are three gymnasiums, a state upper high school, trade academy, theatre, etc. This city suffered many times by war ravages; it was destroyed by the Tartars (13th century) several times, was conquered by the Turks (1421), becoming a frontier town of Protestantism in the days of Honterus the Reformer (16th century), it was plundered by Gabriel Báthori (1610), besieged in 1611 and 1612. General Caraffa executed (1688) many of its citizens and plundered the city; it was burned down the next year by the soldiery. In 1718 and 1755 the pest decimated its inhabitants; in 1849 it was besieged twice and the Russians took possession. Consult Herrmann-Meltzl, von, 'Das alte und neue Kronstadt' (Hermannstadt 1885–88); Filtsch, 'Die Stadt Kronstadt und deren Umgebung' (Vienna 1886).

KRONSTADT, krŏn'stăt, or **CRONSTADT,** Russia, a maritime fortress in the government of Saint Petersburg, and about 25 miles west of that city. It stands in the narrowest part of the Gulf of Finland, opposite to the mouth of the Neva, on a height of the long, narrow, rocky island of Kotlin, forming, both by its position and the strength of its fortifications, the bulwark of the capital, and the most important naval station of the empire. It was founded by Peter the Great in 1710, and has spacious, regular streets, with many handsome houses; Greek, Lutheran, English and Roman Catholic churches; very large marine establishments, a navigation school, a naval arsenal, a cannon-foundry, a barracks, building-yards, docks, etc. The harbor consists of three separate basins — a merchant haven, capable of containing 1,000 ships; a central haven for the repair of ships of war, and the war haven, which, in addition to the other works of the place, is defended by the strong fort of Kronslot, built on two small adjoining islands. The chief disadvantage of Kronstadt as a port is the long period during which the harbor is blocked up by ice. The construction of a canal affording better access by sea to the capital has diminished the trade of Kronstadt, which in consequence will cease to be a commercial port. A revolt of the fleet personnel took place in May 1917. The local administration passed to the hands of the Committee of Workmen's and Soldiers' Delegates on 2 June 1917. The provisional government at Petrograd was defied by the president of the local committee. Drastic measures were decided upon by the former, but the fall of the Kerensky government gave the malcontents and others an opportunity of escaping from the consequences of their acts. See SHIP CANALS; WAR, EUROPEAN.

KROPOTKIN, krō-pŏt'kĭn, **Peter Alexeievitch,** Russian geographer and revolutionist: b. Moscow, 9 Dec. 1842. He was educated in the Corps of Pages at Saint Petersburg, and joining a regiment of Cossacks of the Amur went to eastern Siberia as aide-de-camp to the military governor of Transbaikalia, becoming later attaché for Cossacks' affairs to the governor-general of eastern Siberia. He was connected with a prison commission and strove to get some reforms introduced into Siberian convict prisons, but his efforts proved of no avail. From 1863 he devoted his energies to a scientific investigation of Manchuria and the neighboring parts of Siberia, and his work in this department gained him, in 1864, the gold medal of the Russian Geographical Society. In 1871 he was sent by the Geographical Society to Finland to study glacial phenomena. Arrested in 1874 for promulgating radical ideas of social reform, he was confined in the prison of the military hospital, from which he contrived to escape to England in 1876. In the following year he went to Switzerland, where he founded at Geneva an anarchist journal called *Le Révolté,* but in 1881 was expelled by the Swiss authorities on the demand of Russia. Returning to England in 1882, he wrote and lectured against the government of Alexander III. Having gone to France, he was arrested by the authorities and condemned (January 1883) to five years' imprisonment for participation in the International, but he was released in January 1886, in consequence of a strong appeal made by leading French and English savants. Since then he has lived in England, and engaged in literary work. He has written much on scientific subjects and has contributed to various encyclopædias. His separate publications include 'Paroles d'un Révolté' (1885); 'In Russian and French Prisons' (1887); 'La Conquête du Pain' (1888); 'L'Anarchie, sa Philosophie, son Idéal' (1896; Eng. trans. 1897); 'The State: its Part in History' (1898); 'Fields, Factories and Workshops' (1899); 'Memoirs of a Revolutionist,' first issued serially in *The Atlantic Monthly* (1899); 'The Orography of Asia' (1904); 'Ideals and Realities in Russian Literature' (1905); 'The Great Revolution, 1789–93' (1908); 'Terror in Russia' (1909). Prince Kropotkin is one of the ablest representatives and most eloquent exponents of that theory of society known as anarchist-communism. He is opposed to all societies based on force or restraint, and looks forward to the advent of a purely voluntary society on a communistic basis. He desires to see the division of labor, which is the dominant factor in modern industry, replaced by what he calls the "integration of labor," and is a stanch believer in the immense possibilities of intensive agriculture. In 1901 he delivered a course of lectures at the Lowell Institute in Boston.

KROUT, Mary Hannah, American journalist and author: b. Crawfordsville, Ind., 3 Nov. 1857. She was educated at home, became asso-

ciate editor of the Crawfordsville *Journal* in 1881, and editor on the Terre Haute *Express* in 1882. She was for 10 years on the staff of the Chicago *Inter-Ocean*, was its staff correspondent in Hawaii during the revolution in 1893, furnishing special data subsequently for the State Department. She was also staff correspondent in London from 1895 to 1898, then went to China for a syndicate of representative newspapers specially to investigate the commercial relations of China and the United States. In 1907 she visited Australia for the second time, lecturing on American political and economic conditions and writing a series of articles for the Sydney and Auckland press on American topics. In recent years she has engaged in miscellaneous literary work, and lecturing on literary and general topics. She has published 'Hawaii and a Revolution' (1888); 'Alice in the Hawaiian Islands' (1899); 'A Looker-on in London' (1899); 'Two Girls in China' (1900); completed the 'Memoirs' of Gen. Lew Wallace' (1907); 'Memoirs of Bernice Pauahi Bishop' (1909); 'Reminiscences of Mary S. Rice' (1908); 'Platters and Pipkins' (1908); 'The Coign of Vantage' (1909).

KRU, kroo, or **KRUMEN**, a negro tribe of Cape Palmas, West Africa, of exceptional stature and very dark skinned. They hire themselves as able sailors and boat crews along the entire northwest African coast and work also in the factories, being efficient workers and fairly reliable, which good characteristics have aided them to the principal trade of their section of country. They were found useful factors in the building of the Panama Canal. Consult Büttikofer, 'Reisebilder aus Liberia' (Vol. II, Leyden 1890).

KRÜDENER, krü'dĕn-ĕr, **Barbara Juliane,** BARONESS VON, Russian novelist and pietist: b. Riga, 11 Nov. 1764; d. Karazu-Bazar, 26 Dec. 1824. She received through her father, Privy Councillor von Vietinghoff, in Russia and later at Paris, a very liberal education. In 1872 she married Baron Burchard von Krüdener, an able diplomat attached to the Russian embassy at Paris, but who was already divorced from two wives. She accompanied him to Venice where he was appointed Russian Ambassador, and later (1786) to Copenhagen, where he filled the same position. Being of a coquettish disposition she appears to have led an extravagant life, and, after bearing two children, her nervous condition caused her to leave her husband (1789) and live in Paris, where she became involved in a love affair with a young officer, Count Frègeville, and, dropping her family name but not divorced, she spent the next few years in travel, returning to her husband in 1800, but leaving him again in 1801. She next became intimate with Coppet while living with Madame de Staël and in Paris. In Paris she then became companion of Chateaubriand and Bernardin de Sainte-Pierre, author of 'Paul and Virginia,' when she was informed of the death of her husband (1802). Her novel 'Valérie' (Paris 1803) was now published, in which she built up a romantic story in charming style from an early actual clandestine love episode of hers at Venice. In 1804, at the age of 40, she came under the religious influence of the Moravian sect, then that of the South German cult "Chiliasm," and she now ardently devoted herself to a fantastic religion, her whole being becoming at last absorbed in mysticism and superstition. In 1806 she went to North Germany and, in the following year, did great service tending the wounded after the battle of Eylau (1807); in 1808 she fell under the influence of the teaching of Jung-Stilling in Carlsruhe, who acquainted her with the Swedenborgian cult, and a month later she was in Alsace imbued with the visionary doctrines of Pastor Fontaine and the seeress Marie Gottliebin Kummer. She next held great religious meetings in Würtemberg, Switzerland, Alsace, etc., to which the newly converted and the pious flocked. Turning her eyes toward political events, she placed Napoleon as the Apollyon of the Apocalypse and Alexander of Russia as the deliverer. She obtained audience with the Tsar Alexander (1815) and gained temporary influence over him. It was partly, some claim, through her influence that the "Holy Alliance" was born, but she had not part in its drawing up. With the arrival of peace she traveled to Switzerland where she renewed her pietistic conventicles and preached repentance, spending prodigally of her wealth on the poor and suffering; but her immense popularity created alarm with the authorities and they expelled her from Switzerland in 1817. A similar fate met her in several German states, till she was taken (1818), under police escort, to the Russian border. Placed within bounds by her former convert, Alexander I, she now lived on her estate at Kosse, but in 1824, with her daughter and son-in-law, she went to the Crimea, where she died in the pietist colony of Princess Golytzyn at Karasu-Bazar. Consult Eynard, 'Vie de Madame Krüdener' (Paris 1849); Capefigue, 'La Baronne de Krüdener et l'Enyiéreur Alexandre I' (ib. 1866); 'Frau von Krüdener,' in *Zeitgemälde* (Berne 1868); Lacroix, 'Madame de Krüdener ses Lettres et ses Ouvrages inedits' (Paris 1880); Ford, Clarence, 'Life and Letters of Madame de Krüdener' (London 1893); Turguan, 'La Baronne de Krüdener' (Paris 1900); Mühlenbeck, 'Étude sur les Origines de la Sainte-Alliance' (ib. 1888).

KRUG, kroog, **Wilhelm Traugott,** German philosopher: b. Radis, Prussia, 22 June 1770; d. Leipzig, 13 Jan. 1842. He studied at Wittenberg under Reinhard and Jehnichen, then at Jena and Göttingen, and was appointed (1801) assistant professor of philosophy at Frankfort-on-the-Oder. After Kant's death he was appointed his successor (1804) at Königsberg, and, in 1809, was called to Leipzig, where he became riding master of the Saxon Mounted Jäger and went through the War of Liberation (1813–14), returning to resume his chair at Leipzig, from which he retired, voluntarily (1834). He then devoted his time to writing on philosophical and rationalistic-theological subjects till his death. Of his numerous works should be cited 'System der theoretischen Philosophie' (Königsberg 1806; 3d ed., 1830); 'System der praktischen Philosophie' (ib.; 2d ed., 1829–38); 'Handbuch der Philosophie und philosophischen Literatur' (Leipzig; 3d ed., 1828); 'Allgemeine Handwörterbuch der philosophischen Wissenschaften' (ib. 1827–34). The basic idea of his philosophical system which he explains in his 'Fundamental philoso-

phie' (Zülichau 1803; 3d ed., Leipzig 1827), as a transcendental synthesis of being and knowledge, is that we have in our consciousness an original connection with the being and knowledge of the subject and the external world, which is not further explainable. Consult his autobiography, 'Meine Lebensreise in sechs Stationen, beschrieben von Urceus' (Leipzig 1826), with its sequel, 'Leipziger Freuden und Leiden in Jahr 1830, oder das merkwürdigste Jahr meines Lebens' (ib. 1831).

KRÜGER, krü'gĕr, **Gustav,** German Protestant theological historian: b. Bremen, 29 June 1862. He studied church history and was graduated at Heidelberg, Jena and the Giessen University (1886), where he became assistant professor (1889) and (1891) regular professor. He wrote 'Lucifer von Calaris und das Schisma der Luciferianer' (Leipzig 1886); 'Die Apologieen Justins' (Freiburg 1891); 'Geschichte der altchristlichen Literatur' (ib. 1895; addenda 1898); 'Die Entstehung des Neuen Testaments' (ib. 1896); 'Kritik und Ueberlieferung auf dem gebiete der Erforschung des Urchristenthums' (Giessen 1903); 'Das Gogma von der Dreieinigkeit und Gottmenschheit in seiner geschichtlichen Entwickelung' (Tübingen 1905); 'Handbuch der Kirchen geschichte' (1909–13).

KRUGER, kroo'gĕr, **Stephanus Johannes Paulus,** Boer statesman: b. Colesberg, Cape Colony, 10 Oct. 1825; d. Clarens, Switzerland, 14 July 1904. At 11 he accompanied his parents in the "great trek" or migration of Boers, whom the British administrators had antagonized, from the Cape Colony,—a movement which resulted in the colonization by Boers of Natal, the Orange Free State and the Transvaal. He and his parents resided for a time in the Orange Free State, but they ultimately made their home north of the river Vaal. At 16 he was assistant to a field cornet, and not long afterward became a field cornet himself. From that time he was constantly connected with either the military or the civil government of the Transvaal, and his force of character gradually brought him to the front. In 1863 he became commandant-general, and in that capacity put down civil feuds and defeated the Basutos. At the time of the annexation of the Transvaal to the British territories in 1877 he was Vice-President under President Burgers. Upon the reorganization of the Boer government, by the national committee in 1880, he again assumed the office of Vice-President, and in the war of 1880–81 with Great Britain he took a leading part. He was elected President in 1883, and re-elected in 1888, 1893 and 1898. He visited England in 1883 in order to obtain a revision of the Pretoria Convention of 1881, and before his return in the following year he secured its replacement by a new convention practically granting independence — except in so far as relations with foreign countries were concerned — and authorizing the renaming of the state as the South African Republic. Kruger's position in the republic was now one of almost unlimited influence and authority. The enormous influx of foreigners after the discovery of the rich gold deposits of the Witwatersrand created problems of the utmost gravity. The greed of the British South Africa Company was extreme, the Uitlanders complained of injustice in being debarred from the franchise, and the Boers on their part were determined to resist foreign aggression. A crisis presented itself in the so-called "Jameson Raid" of December 1895, which was easily crushed by the Boers, and at the same time led them to look forward to another and greater struggle with the English and to accumulate in anticipation a large supply of military stores. Kruger managed with much diplomatic skill the difficult matters connected with this affair. In the second war with Great Britain Kruger remained in the country till the fall of Pretoria (5 June 1900), then escaped into Portuguese territory, and thence 19 October sailed for Europe, hoping to enlist some of the European powers on behalf of the Boer republics, but failing in this he took up his residence in the Netherlands. In the summer of 1901 he proposed visiting the United States for the purpose of inducing the government to give its moral support to the Boers, but on being informed that neither President McKinley nor after him President Roosevelt would receive him in other than a strictly unofficial manner, the project was abandoned. His wife died at Pretoria in July 1901. Kruger was buried in Pretoria. (See also SOUTH AFRICAN WAR). Consult Van Dordt, 'Paul Kruger' (1900); Scohle and Abercromby, 'The Rise and Fall of Krugerism' (1900); Statham, 'Paul Kruger and his Times' (1898). His 'Memoirs,' translated by de Mattos, were published in 1900.

KRUMBACHER, krŭm'bah-ĕr, **Karl,** German Byzantine scholar: b. Kürnach, Bavaria, 23 Sept. 1856; d. 1909. He studied classical philology at Munich and Leipzig and was appointed (1879) teacher of the Gymnasium at Munich, becoming assistant professor (1891) and professor of middle and modern Grecian philology (1897) till his death. He is best known through his 'Geschichte der byzantinischen Literatur' (Munich 1891; 2d ed., 1897), covering from Justinian to the fall of the Eastern Empire, 1453. He founded the *Byzantinische Zeitschrift* (Leipzig from 1892), and *Byzantinische Archiv* (ib. from 1898). He wrote 'Griechische Reise' (Berlin 1886), a consequence of his residence in the Orient in 1884 and 1885. Numerous works of his on middle and modern Grecian philology are in Reports of Proceedings of the Bavarian Academy. He wrote 'Codex der Grammatik des Dositheus' (1884); 'Beiträge zu einer Geschichte der griechischen Sprache' (1885–89); 'Mittelgriechische Sprichwörter' (1893); 'Das Problem der neugriechischen Schriftsprache' (1902); 'Populäre Aufsätze' (1909).

KRUMMACHER, kroom'mäh-ĕr, **Friedrich Adolf,** German theologian: b. Tecklenburg, 13 July 1767; d. Bremen, 4 April 1845. A minister in the German Reformed Church and a professor of theology, he became widely known by his 'Parables' (1805), which ran through many editions and are familiar in an English translation. They were as a rule short, written in simple prose, on such subjects as 'The Blind Man,' 'Life and Death,' 'The Hero,' etc. None of his other writings won popularity.

KRUPP, kroop, **Alfred,** German inventor and metallurgist: b. Essen, Prussia, 26 April 1812; d. there, 14 July 1887. He was a son

of Friedrich Krupp (q.v.). In 1848 he assumed charge of the Krupp Steel Works at Essen and presently discovered the method of casting steel in very large masses. In 1851 he sent to the London Exhibition a block of steel weighing 4,500 pounds, and was able to cast steel in one mass weighing more than 100,000 pounds. Although he manufactured a great variety of articles for use in various peaceful industries, his world-wide fame arose from his production of the enormous siege guns used by the Germans when they invested Paris. Several of Krupp's processes in the manufacture of steel and in the making of cannon were very carefully kept from the knowledge of the outside world and only employees were admitted to his foundries.

KRUPP, Friedrich, German manufacturer: b. 1787; d. 1826. He established a small forge at Essen, Rhenish Prussia, in 1810, experimented in the making of cast-steel, the secret of which was then carefully kept in Great Britain, and was able in 1812 to manufacture some of the material. In 1818, on the site of the present large Krupp establishment, he built a small plant of eight smelting furnaces, each with one crucible. He turned out a steel of excellent quality, though not perfectly successful; but demand for the product was then slight, despite its use for mint-dies and some other purposes, and the activity of the manufactory was correspondingly small.

KRUPP, Friedrich Alfred, German gunmaker: b. Essen, Germany, 17 Feb. 1854; d. there, 22 Nov. 1902. He was known as the "Cannon King" in Germany, and was the son of Alfred Krupp, who invented a new Bessemer steel, out of which he made rifles and cannons; a seamless tire for car-wheels and discovered a new method of hardening armor plate. His grandfather, Friedrich Krupp (q.v.), founded the steel industry of Essen, beginning in 1817 with two laborers. The Krupps have been head of the iron and steel industry of Prussia for many years; their establishment is one of the greatest in the world. Friedrich Alfred Krupp was the richest man in the empire. He was generous to his operatives, built for them 5,469 dwellings, each with its garden, besides providing convalescent hospitals and orphanages. He also maintained a pension fund of $4,125,000 for their benefit. He vastly improved the capacity of the business by taking in other steel works at Rheinhausen and in the neighborhood of Magdeburg; acquiring coal and iron mines in Germany, and iron mines in Spain. The shipyards and engine shops of Kiel and Berlin which he amalgamated with the mining and founding business were sources of great wealth, and he owned a fleet of steamers for the exportation of his goods. Although he took no active part in his business on its technical side (in which he differed from his father and grandfather) his skill in finance was so great that in 15 years he almost doubled his inherited fortune.

KRUPP FOUNDRIES, Social Work at, one of the early difficulties encountered by the great Essen works was that by 1861 the employees had outgrown the living accommodations to such an extent as to create disturbance to the growth of the industry. Two rows of houses were constructed (1861–62) for the foremen and the workmen's dwellings were started in 1863, and became the colony known as Alt-Westend. The buildings were of simple construction, but sanitary, and rents were low. By the beginning of 1872 the second colony — called New-Westend — was completed. There were 3,659 dwellings built by 1891, besides 43 for widows free of rent. The capital expended had a net income of 2.5 per cent, which was invested in other improvements. The small Essen Co-operative Society had its management undertaken by the firm in 1868 and its title was changed to *Consum-Anstalt,* and all varieties of goods were supplied at lowest possible prices to the workmen. This work was done at the responsibility and risk of the firm for numerous years at cost, but the work was later turned over to the employees for free co-operation. All sales are done for cash, and the balance of profit is returned yearly to the purchasers pro rata of value of purchases.

A boarding establishment, known as the "Menage," was started in 1856 with 200 unmarried men. By 1873 the number had grown to 1,775, falling off to less than 500 in 1875, then growing to about 800. The lack of freedom caused its falling off. The health of the employees is looked after by a board of physicians, and a large bathing establishment is assisting the hygienic work. Three insurance associations have been formed, against accident, for life insurance and against sickness, to which the firm contributes $60,000 per year, $2,500 of which is paid under the Imperial Insurance Law. A trust fund of $250,000 produces from its interest pension funds for the use of those whose needs are not covered by other sources. Under the employees' widows pension plan payments are made annually amounting to nearly $952,000. The city of Essen also has a gift of $500,000 provided for building material and moral improvement from the interest. There are also numerous scientific and manual training schools. The rapid growth of socialistic propaganda centre is remarkable, however, and of recent years has kept pace with the advance in the social and economical program.

In the last few years the colonies of Schederhof, Nordhof and Cronenberg were added to the two Westends, and Baumhof was built a short distance from the city in 1890 on cheaper land, affording detached buildings of two stories to accommodate three or four families and permitting larger gardens to surround the dwellings, at a rental of 85 cents per week for five rooms and garden. Following these came Alfredshof (erected 1894) a model village, and Altenhof, started a little later, built on still more attractive lines. The latter accommodates aged employees and widows free of rent. Friedrichshof was the next colony erected, on advanced lines. Each of these numerous colonies has its market place, beer-hall, co-operative store, park and music pavilion. The dwellings, some few years ago, figured 4,300 about Essen and 700 in the colonies of Bredeney, Annen, Gaarden and Bochum. Consult Blencke, 'Alfred Krupp' (1898); Klein and Hehnemann, 'Friedrich Alfred Krupp' (1903).

KRUPP PROCESS OF ARMOR PLATE. See ARMOR PLATE.

KRUSE, kroo'zĕ, **Heinrich,** German dramatic poet: b. Stralsund, 15 Dec. 1815; d.

Bückeburg, 13 Jan. 1902. He studied philology at Bonn and Berlin after which he dwelt abroad several years, chiefly in England. He was appointed (1844) teacher at the gymnasium, Minden, but joined (1847) the editorial staff of the *Kölnische Zeitung*. As successor to Gervinus he managed (1848–49) the *Deutsche Zeitung* at Frankfort, but returned to the *Kölnische Zeitung* and became chief editor in 1855, remaining in that post till he took up residence (1872) in Berlin. He lived at Bückeburg from 1884. Among his dramatic works are 'Die Gräfin' (Leipzig 1868; 4th ed., 1873), a tragedy which won the Schiller prize; 'Wullenwever' (1870; 4th ed., 1894); 'König Erich' (1871); 'Moritz von Sachsen' (1872); 'Brutus' (1874); 'Marino Faliero' (1876); 'Das Mädchen von Byzanz' (1877); 'Der Verbannte' (1879), etc., all tragedies. Of his short plays and poems might be mentioned 'Festnachtspiele' (Leipzig 1887); and his clever 'Seegeschichten' (Stuttgart 1880). Consult Brandes, F. H., 'Heinrich Kruse als Dramatiker' (Hanover 1898); Lange, E., 'Heinrich Kruses pommersche Dramen' (Greifswald 1902).

KRUSENSTERN, kroo'zĕn-stĕrn, **Adam Johann von,** Russian navigator: b. Haggud, Esthonia, 19 Nov. 1770; d. there, 24 Aug. 1846. He entered the cadet corps and took part in the war (1788) with Sweden, and served in the English fleet (1793–99). He was given (1803) command of an expedition to the northwest coast of America and Asia, with the object of opening up the fur trade of the Pacific coast and renewing the Japanese commercial relations. He failed in the latter object but the scientific outcome of the world's circumnavigation was important. From 1827 to 1842 he was director of the naval school and, in 1841, was made general-admiral. His bronze statue was erected (1876) at the naval school, Saint Petersburg. He wrote 'Voyage round the World in 1803–06' (Saint Petersburg 1810–12), translated into several languages and containing an atlas and 104 plates; 'Atlas de'l Ocean Pacifique' (Saint Petersburg 1824–27, with supplements).

KRYLOV, krĕ-lōf, **Ivan Andreievitch,** Russian fable writer: b. Moscow, 13 Feb. 1768; d. Saint Petersburg, 21 Nov. 1844. He was the son of a poor subaltern officer, yet in his 15th year he wrote the successful opera 'Kofejnica' ('The Coffee Fortune-teller') and was appointed Unterkanzlist in a circuit town (1781) and Kanzlist at Tver end of the same year. He received a position in the Chamber of Finance at Saint Petersburg (1782) and in the cabinet of the empress (1788) but retired in 1790. He then published several periodicals unsuccessfully though they established his reputation as journalist, the fine satiric talent displayed in his contributions, and by gift of observation and masterly language. Meanwhile he was writing odes, tragedies, a comic opera 'The Crazy Family' (1793) and comedies, all in the French taste but none important. From 1797–1801 he lived on the estate of Prince Golitzyn in the Ukraine, becoming his secretary (1803). In 1806 he went to Moscow, then Saint Petersburg, where he wrote (1907) his most popular comedy 'The Fashion Magazine,' and 'A Lesson for Daughters,' the 'Magic Opera,' 'Ilja the Hero,' etc. He next turned to poetry, his true field soon appearing to be fables. The first issue of his fables (23) appeared in 1809, the second (21 new) in 1811, in which year he was elected member of the Saint Petersburg Academy. The last collection under his supervision (1843) contained 197 fables and reached its 26th edition in Saint Petersburg in 1891. He was appointed assistant at the Imperial Library in 1812. A memorial in his honor was erected (1885) in the Saint Petersburg Summer Garden. Through their Russian sentiment, humor and naturalness, wit and good nature, his fables have become the favorite book of the people and new editions continue to appear rapidly. Translations in the French (Paris 1825) and the Italian languages have been published, and German versions by Torney (Mitau 1842), Löwe (Leipzig 1874) and Frau von Gernet (ib. 1881) find wide circulation. A comprehensive collection of his works was published (1847 and 1859) in Saint Petersburg with a biography by Pletnev, and another by Kalasha (Saint Petersburg 1914). W. Kenevitch's 'Bibliographical and Historical Notes on the Fables of Krylov' (Saint Petersburg, 2d ed., 1878) contains perhaps, the best commentaries.

KRYPTON, a gaseous element discovered in the atmosphere by Ramsay and Travers, in 1898. (The history of this member of the argon group is so bound up with that of argon itself that reference should be made to the article ARGON, and to the references there given). Krypton was discovered in the last fraction remaining after the evaporation of a considerable quantity of liquid air. The residue consisted chiefly of argon, oxygen and nitrogen; but when the oxygen and nitrogen had been removed, a spectroscopic examination of what remained showed lines that indicated the existence of at least one new element, in addition to argon and helium. To this new element the name "krypton" was assigned, from a Greek word signifying "hidden," in allusion to the circumstances under which the discovery was made. (See also NEON and XENON). Little is known, as yet, concerning the properties of krypton. When it was isolated by means of a tedious diffusion process, it was found by Ramsay and Travers to have a density about 40.75 times as great as that of hydrogen and an atomic weight of about 81.5. The ratio of its specific heat at constant pressure to its specific heat at constant volume was found to be 1.66, as in the cases of argon and helium. Subsequent experiments by Ladenburg and Krügel have indicated a density of about 29.5, and therefore an atomic weight of about 59. Travers, in his book issued subsequently to these later experiments, makes no reference to them. Considerations based upon the periodic law (q.v.) appear to indicate that the results of Ramsay and Travers are the more probable; but this point is as yet undecided. Krypton exists in the air in the proportion of about one part in a million. It has the chemical symbol Kr and appears to be as inert, chemically, as argon.

KTISTOLATRÆ. See MONOPHYSITES.

KU-KLUX (kū'klŭks') **KLAN,** a secret society which existed in the Southern States of the United States during the period immediately following the Civil War (1865–76). It was originally established at Pulaski, Tenn., about

1865 and its purpose was at first the amusement of its members. However, the sudden enfranchisement of the blacks of the South brought to the white population the serious problem of social readjustment. Politicians and unscrupulous business men (carpet-baggers) were among the many Northerners who flocked to the South to exploit the new citizens, while the negroes, loosed from the restraining influence of their masters, and ignorant of and unprepared for the responsibilities of full citizenship, were demoralized and lawless. The Ku-Klux Klan, therefore, took upon itself the duty of frightening the blacks into good behavior and obedience. From this beginning, all sorts of lawless deeds of violence were performed in the Klan's name, until the band became notorious. At the first meeting a name was suggested — «Ku-Kloi,» from the Greek «Kuklos,» a band or circle. On the mention of this name someone cried out, «Call it 'Kuklux.'» Nearly all present were Tennesseeans, with only one or two from farther south. The name was adopted and the society provided for the following officers: A grand cyclops or president; a grand magus or vice-president; a grand turk or marshal; a grand exchequer or treasurer and two lictors. There were the outer and inner guards of the «Den,» as the place of meeting was designated. Each member was required to provide himself with the following outfit: A white mask for the face, with orifices for the eyes and nose; a tall, fantastic cardboard hat, so constructed as to increase the wearer's apparent height, and in shape like those placed on the heads of the heretics formerly burnt in the Portuguese and Spanish *auto-de-fes;* a gown or robe of sufficient length to cover the entire person. The color and material were left to the wearer's fancy and each selected what would in his judgment be most hideous and fantastic. Each member carried also a small whistle, with which, by means of a code of signals agreed on, they held communication with one another. The Klan increased in numbers and in power, an *imperium in imperio,* until its decrees were far more potent and its powers more dreaded than that of the visible commonwealths which it either dominated or terrorized. In April 1867 the grand cyclops of the Pulaski den sent out a request to all the dens scattered over the South to appoint delegates to meet in convention at Nashville, Tenn., in the early summer of 1867. At the time appointed this convention was held. Delegates were present from the Carolinas, Alabama, Georgia, Louisiana and other Southern States. A plan of reorganization previously prepared was submitted to the convention and adopted and the delegates returned to their various States as secretly as they had come.

The grand officers were: The grand wizard of the invisible empire and his 10 genii. The powers of this officer were almost autocratic. The grand dragon of the realm and his eight hydras; the grand titian of the dominion and his six furies; the grand cyclops of the den and his two nighthawks; a grand monk; a grand exchequer; a grand lictor; a grand scribe; a grand turk; a grand sentinel. The genii, hydras, furies, goblins and nighthawks were staff officers. The gradation and distribution of authority were perfect.

One of the most important things done by this Nashville convention was to make a positive and emphatic declaration of the principles of the order. It was in the following terms:

«We recognize our relations to the United States Government; the supremacy of the Constitution; the constitutional laws thereof; and the union of the States thereunder.»

This Nashville convention also defined and set forth the peculiar objects of the order as follows:

1. To protect the weak, the innocent and the defenseless from the indignities, wrongs and outrages of the lawless, the violent and the brutal; to relieve the injured and the oppressed; to succor the suffering and especially the widows and orphans of Confederate soldiers.

2. To protect and defend the Constitution of the United States and all laws passed in conformity thereto, and to protect the States and people from all invasion from any source whatever.

3. To aid and assist in the execution of all constitutional laws, and to protect the people from unlawful seizure, and from trial except by their peers in conformity to the laws of the land.

The Klan had a very large membership; it exerted a vast, terrifying and wholesome power, but its influence was never at any time dependent on or proportioned to its membership. A careful estimate placed the number of Kuklux in Tennessee at 40,000, and in the entire South at 550,000. In 1871, a special message was sent to Congress by President Grant, pointing out the fact that the constitutional rights of some of the citizens and officials of the United States were being rendered insecure by the lawless members of the country and urging a Congressional enactment to put a stop to this condition of affairs. An investigation followed, and Congress passed the «Force Bill» for the purpose of enforcing the 14th Amendment and dealing with all offenders against that amendment. In October of the same year, the President issued a proclamation calling on the members of all illegal associations in nine counties in South Carolina to disperse and surrender their arms and disguises. Five days later a proclamation was issued suspending the privileges of the writ of habeas corpus in the counties named. Several hundred persons were arrested, and this demonstration caused the gradual dissolution of the organization. Its purpose — to check the threatening political supremacy of the blacks in the South — had been accomplished. Consult Fleming, 'Documentary History of Reconstruction' (Cleveland 1907); Lester, Wilson and Fleming, 'The Ku-Klux Klan' (New York 1905).

KUBAN, koo-bä'ny', Russia, a province in the Ciscaucasian government, bounded on the northwest by the Caucasus, on the east by the district Terek and the government of Stavropol and on the north by the Don. Its entire length is traversed from east to west, by the Kuban River (q.v.), the southern division is mountainous and covered with forests, while the northern section is broken up into steppes, lakes and swamps. The inhabitants exist chiefly from agriculture, the main production being grain, with tobacco of next importance; but cattle and wine afford considerable source of wealth. On the steppes are bred sheep, horses, oxen and camels, and bee-culture has fair proportions.

The Kuban River and the lakes afford profitable fisheries, and salt is produced in the lagoons. Trade consists chiefly of grain, wool, wood, fish, etc. The Rostov-Vladikavkas Railway runs through the province. Ekatorinodar is the capital. Pop. 2,830,200, consisting of 40 per cent Cossack. In 1901 there were but 467 schools and 41,086 pupils.

KUBAN RIVER, Russia, a river traversing the government of the same name; it is the ancient Hypamis or Vardanes and is known to the Tchergese as the Pstchitchie. It is fed by the glaciers of the Caucasus Mountains and extends over 525 miles, running through the northern slopes of the range in a northerly direction, bends west and, forming immense swamps, discharges into a gulf of the Black Sea. Several arms fall into the Sea of Azof and are navigable to the mouth of the Laba, a tributary.

KUBANGO RIVER, or **OKAVANGO,** southwest Africa, a river flowing from the highlands of Bihé, Portuguese Angola, between Koanza and Kunene, first southward then southeastward. It reaches and crosses the border of German Southwest Africa after making a sharp bend and creates, in British Zambesia, the Nona Falls; continuing in devious directions it reaches the plains and marshes of western Rhodesia north of Lake Ngami. In the rainy season especially, an arm of the river above the falls forms a tributary of the Zambezi.

KUBELIK, Jan, yän koo'bĕ-lēk, Bohemian violinist: b. Miehle, near Prague, 1880. Born of humble parentage, he studied at the Prague Conservatory and subsequently performed at semi-private musicales. In 1898 he appeared at a public orchestral concert, and in 1900 with the Berlin Philharmonic Society, and made his début in London in June of that year. Subsequently he made a brief but successful tour on the Continent and in England, and in December 1901 came to the United States, where he was most enthusiastically received. He has since made tours in Europe, the Americas and Australia, and has been the recipient of many honors and decorations.

KUBLA KHAN. Coleridge's 'Kubla Khan' is a poetic fragment of 54 lines describing in highly imaginative language the stately pleasure palace built by an Eastern prince amid strange and visionary surroundings. According to Coleridge's own account the poem came to him as an opium dream, after he had been reading an account of Kubla Khan in Purchas' 'Pilgrimages.' On sitting down to write he remembered the entire vision perfectly, but an interruption prevented his completing the poem at the time, and on returning to the work he found that he could not recall the rest. 'Kubla Khan' was published at the request of Byron in 1816. It belongs to the brief period of Coleridge's creative activity and is akin in imaginative and poetic qualities to the two other masterpieces of Coleridge's muse, 'Christabel' and 'The Ancient Mariner,' though less coherent than either of these longer works. The vision has no meaning and needs none. It is simply a succession of images, dreamlike and unreal but vivid and colorful. Coleridge is a master of the magic suggestiveness of words, and he has a unique faculty "of finding visionary music for his visionary speech." The rhythms of his verse are delicate and rich and varied, like the tones of a great organ. Consult 'Poetical Works' (edited by J. D. Campbell, p. 94 and notes); also the essays by Dowden, 'New Studies'; Pater, 'Appreciations'; and Stephen, 'Hours in a Library' (Vol. III).

JAMES H. HANFORD.

KUBLAI KHAN, koob'lī khän (more properly KHÜBILAI KHAN), called by the Chinese Chi-Tson, Mongol emperor: b. 1216; d. 1294. He was the founder of the twentieth Chinese dynasty, that of the Mongols or Yuen. He was a grandson of Genghis Khan, and in 1259 succeeded his brother Mangû as Khagan or Grand Khan of the Mongols, and in 1260 he conquered the whole of northern China, driving out the Tartar or Kin dynasty. He then ruled over the conquered territory himself, and 19 years later added to it southern China, the dominion of the Song dynasty, which had originally summoned his assistance in driving out the Tartars from the north. Kûblai thus became sole ruler of an empire extending over a large part of Asia, as well as over those parts of Europe that had belonged to the dominion of Genghis Khan. He repaired the evils of so many wars by a wise administration, and by the encouragement which he gave to letters, commerce, industry and agriculture brought them all to a very flourishing condition. Marco Polo, the celebrated Venetian traveler, who lived 17 years at the court of this prince, gives some interesting information regarding him. He invited European Christian missionaries to take up work in his dominions; but the opportunity was lost, and Buddhism was the gainer thereby. Kublai Kahn is the subject of a poetical fragment by Coleridge. Consult Yale, 'Marco Polo' (1875); and Howorth, 'History of the Mongols' (1876–88).

KUCH BEHAR. See COOCH BEHAR.

KÜCHENMEISTER, kük'ĕn-mī'stēr, **Gottlieb Friedrich Heinrich,** German physician: b. Buchheim, 22 Jan. 1821; d. Dresden, 13 April 1890. He studied at Leipzig and Prague and started practice as physician (1846) in Zittau, but removed (1859) to Dresden. His most useful work was in the research into intestinal parasites. He differentiated the human tapeworms, described (1853) the mate of the itch-worm and interested himself deeply in the trichinæ infection problem. He proved the value of vermifuges, and recognized (1850) the toxic action of balsam of Peru on the itch-worm, etc. He was an advocate of cremation and was chief founder of the Gotha Crematorium. He wrote 'Versuche über die Metamorphose der Finnen in Bandwürmer' (1852); 'Die Parasiten des Menschen' (Leipzig 1855; 2d ed., 1878–81). Consult 'Die Tatenbestuttungen der Bibel und die Feuerbestattung' (Stuttgart 1893), which has a biography.

KUEHL, kül, **Gotthardt J.,** German painter: b. Lubeck, 28 Nov. 1850. He studied at Paris, Munich and in Holland. His range of subjects runs from peasantry interiors, ancient city views, churches, etc. Among his works are 'The Netmaker,' in the Lubeck Museum; 'The Tête-à-tête,' in the Luxembourg, Paris; 'The Elbe Bridge,' in the Dresden Gallery; 'Sad

News' (ib.); 'In the Danzig Orphan Asylum,' in the Leipzig Museum; 'The Old Slaughterhouse,' in Magdeburg Museum; 'Sunday Morn,' in New Pinakothek, Munich; 'The Visit,' in Hanover Museum; 'King Arthur's Court in Danzig,' in Vienna Museum; 'View of the Frauenkirche,' etc. He has been created privy councillor and professor of the Dresden Academy, and is honorary member of the Imperial Academy of the Plastic Arts, Munich, etc.

KUEN-LUN, kwĕn-loon', a great mountain system of central Asia, a branch of the Himalayas, on the northern fringe of the Tibetan Plateau. It varies in breadth, both extremities being compressed, its middle portion consisting of numerous more or less parallel chains. Nearly the whole group is between lat. 30° and 40° N. The most northern part on the west is a continuous mountain-wall having several names and being farther continued by the Nan-shan and other chains well into China. Toward the south are three roughly parallel shorter ranges, the last of which, with its eastern continuations, forms the southern boundary of a mountainous region in which are the Tsaidam salt waste and the Koko-Nor lakes. Between the last-named group and one farther south the Hoang-ho rises. The most southerly chain of the central Kuen-lun is that of the Yang-la Mountains. The greatest elevation of the Kuen-lun is in the western ranges, and reaches over 22,500 feet, while the chief western ranges average about 20,000 feet. Most of the peaks of the eastern chains, in China proper, are under 17,000 feet.

KUENEN, kü'nĕn, **Abraham,** Dutch theologian: b. Haarlem, 16 Sept. 1828; d. Leyden, 9 Dec. 1891. He studied at Leyden, becoming (1853) assistant professor and (1855) professor of theology. His chief works are 'Historic — Critical Research into the Origin and Collection of Books in the Old Testament' (Leyden 1861–65, 3 vols.; 2d ed., 1885–93); 'De Godsdienst van Israël tot den Ondergang van den Joodschen Staat' (Haarlem 1869–70); 'De Profeten en de Profetie onder Israël' (Leyden 1875); 'National Religions and Universal Religion' (5 Hibbert Lectures 1882). He published the *Theologisch Tijdschrift* from 1867. Karl Budde has issued translations into the German since his death, in 'Gesammelte Abhandlungen zur biblischen Wissenschaft' (Freiburg 1894).

KUGLER, koog'lĕr, **Franz Theodor,** German writer on art: b. Stettin, 19 Jan. 1808; d. Berlin, 18 March 1858. He was appointed a professor of fine arts in the University of Berlin in 1833, and subsequently became a member of the Academy of Berlin. His works have undoubtedly exercised great influence on German art and culture; notably a 'History of Painting from Constantine the Great to the Present Times' (1837); 'Handbook of the History of Art' (1841–42); 'History of Architecture' (1856). He also wrote a 'History of Frederick the Great' (1840), which is popular in Germany. His 'History of Art' was continued by W. Lübke.

KUHLAU, koo'lou, **Friedrich,** German composer: b. Uelzen, Hanover, 11 Sept. 1786; d. Lyngbye near Copenhagen, 12 March 1832. He was trained by Schwenke at Hamburg but fled (1810) to Copenhagen to escape conscription. There he became violinist in an orchestra without salary, but became, in consequence composer to the court and professor of music. He wrote several operas using Danish folklore as subjects besides a number of voice, instrumental and piano pieces, but his sonatinas alone are heard at this day and these because they afford useful instruction material for beginners. Consult Thrane, 'Friedrich Kuhlau' (Leipzig 1886).

KUHN, koon, **Franz Felix Adalbert,** German philologist and mythologist: b. Königsberg-in-der-Neumark, 19 Nov. 1812; d. Berlin, 5 May 1881. He studied in Berlin, becoming instructor (1841), then professor and (1870) director of the Köllnisches Gymnasium at Berlin. He did great research work in comparative philology and, especially, in comparative mythology of the Indo-Germanic peoples. He was editor of the *Zeitschrift für vergleichende Sprachforschung* from 1851, which combined (1862) with *Beiträge zur vergleichenden Sprachforschung,* their combined title becoming (1875) *Zeitschrift für vergleichende Sprachforschung auf dem gebiete der indo-germanischen Sprachen.* His most important works in his sphere of thought are 'Zur ältesten geschichte der indo-germanischen Völker' (Berlin 1845); 'Die Herabkunft des Feuers und des Göttertranks' (ib. 1859); Ueber Entwickelüngstufen der Mythenbildung' (Berlin 1874). Other works are 'Markische Sagen und Märchen' (Berlin 1842); 'Norddeutsche Sagen, Märchen und Gebräuche' (with Schwartz, Leipzig 1848) and 'Sagen, Gebräuche und Märchen aus Westfalen' (ib. 1859).

KUHNAU, koo'nou, **Johann,** German composer: b. Neugeising, Saxony, 6 April 1660; d. Leipzig, 5 June 1722. He was educated at the Kreuzschule, Dresden, and later under the bandmaster Albrici, then entering (1682) the Leipzig University to study law. Continuing, his musical activities as well he was appointed (1684) organist at the Thomaskirche, practising law at the same time but resigning from legal activity in favor of the position of musical director of the university in 1700. In 1701 he became cantor at the Thomaskirche, J. Sebastian Bach succeeding him. Of historic interest is his being the creator of compositions for the piano. Among his chief compositions are his piano sonatas, his works for this instrument being second only to Bach. Consult Wagner, 'Johann Kuhnau' (Frauenstein 1912).

KÜHNE, kü'nĕ, **Ferdinand Gustav,** German novelist and critic: b. Magdeburg, 27 Dec. 1806; d. Dresden, 22 April 1888. He studied philosophy in Berlin under Hegel, became editor (1835–42) of the *Zeitung für die elegante Welt* and, from 1846, he was editor of the periodical *Europa* but removed (1856) to Dresden. He published 'Mein Tagebuch in bewegter Zeit' (Leipzig 1863); 'Christus auf der Wanderschaft' (ib. 1870), a poetical satire on the papacy; also the popularly received 'Römischen Sonette' (ib. 1869); 'Romanzen, Legenden und Fabeln' (Dresden 1880). During his journalistic days he followed the «Young Germany» movement, keeping free from its extremes. Other works of his are 'Gedichten' (Leipzig 1831); 'Die

beiden Magdalenen' (ib. 1833); 'Eine Quarantäne im Irrenhaus' (ib. 1835); 'Klosternovellen' (ib. 1838); 'Die Rebellen von Irland' (ib. 1840); 'Die Freimaurer' (Frankfort 1854), his most entertaining novel. His critical articles stand in high repute, such as 'Weibliche und männliche Charaktere' (Leipzig 1838); 'Sospiri, Blätter aus Venedig' (Brunswick 1841); 'Mein Karnival in Berlin' (ib. 1843); 'Porträts und Silhouetten' (Hanover 1843). He wrote the dramas 'Isaura von Kastilien'; 'Kaiser Friedrich III,' and 'Die Verschwörung von Dublin,' but they were not favorably received. 'Empfundenes und Gedachtes, Lose Blätter aus Gustav Kühnes Schriften' is a posthumous work edited by Edgar Pierson (Dresden 1890). Consult Pierson, 'Gustav Kühne, sein Lebensbild und Briefwechsel' (Dresden 1890).

KUKA, koo'kạ, or **KUKAUA,** Africa, the half-ruined town in the negro kingdom Bornu in the Soudan and formerly one of the largest towns of central Africa. It is situated a few miles west of Lake Chad, which often inundates it. Its former prosperity was caused by its being a thriving market for slaves, horses, leather and cotton goods, and then boasted a population of about 60,000 in the city proper and 100,000 in its suburbs. In 1898 Rabbeh conquered all Bornu and leveled the city to the ground. In 1902 the British took possession, making it a government residence and garrison town.

KUKIS, a tribe living in the mountain regions between Lower Bengal and Upper Burma. See CHINS.

KUKU NOR, koo'koo nōr', Tibet, the large salt lake in northeast Tibet near the boundary of Kansu on an altitude of 10,000 feet above the sea. It is richly stocked with fish, and has a Buddhist monastery on one of its five islands. The lake is 40 miles wide and 60 miles in length. From its southern shore rises the South Kuku Nor range of mountains with an altitude of about 15,000 feet. Its name is derived from Mongolian Kokonor, "blue sea"; it is the Chinese Tsing hai.

KUKUI, koo'koo-ē', CANDLENUT, TUNG, or **CHINESE-WOOD OIL,** the oil obtained from the different Aleurites. The three chief sources are as follows: (1) That obtained from the Aleurites triloba (candlenut tree) of the tropics and subtropics of the Old World, the Antilles and Brazil whose seeds are similar to small walnuts and are used by the Polynesians as a lighting fuel. They contain 62 per cent of fatty oil known as banku, kukui or kukun. When dried in the air these are eatable and serviceable for painting, and pressed into cakes are used as cattle food and manure. (2) Aleurites cordata, or tung-tree of China, Japan and tropical South Asia, at Bourbon, Zanzibar, West Indies and the United States, yields Chinese-Wood oil, tung-oil, the Japanese abwágiri, Yani-giri, much used for furniture lac, waterproofing of woods, as well as burning for light and medicinal purposes. Cold pressed it is light-yellow. (3) Aleurites fordii, a species which is being successfully cultivated in the Southern States (Florida, California, etc.).

KUKULJEVIC-SAKCINSKI, koo'kool-yā'vĭch-sạk-chĭn'skē, **Ivan,** Croatian historian and jurist: b. Warasdin, 29 May 1816; d. Zagorien, 1 Aug. 1889. He served in the army (1833–42), then devoted himself to poetry but taking up actively the political movement of 1848. He was appointed a keeper of the archives, becoming (1875) president of the district schools commission. He did much useful research into ancient history besides his energetic activity on behalf of the Croatian nationality and endeavors to reform the laws. He wrote 'Jura regni Croatiæ, Dalmatiæ et Slavoniæ' (Agram 1861–62); 'Monumenta historica Slavorum meridionalium' (ib. 1868–75). He assisted greatly in publishing Slavonic works, a Croatian bibliography (1860–63), dictionary of southern Slav artists (1869), historical dissertations in *Arkio,* a publication brought out by him (1850–75) for the Historical Society of Southern Slavs. Of his poems, dramatical works and stories a collection was published under the title of 'Različita djela,' Mixed Writings (Agram 1842–47).

KULJA, kool'jạ, or **KULDJA,** Turkestan, principal city of a district of the same name and situated on the Ili River. It has a 30-foot high clay wall forming a citadel inhabited almost entirely by Manchus, and outer gardens and plantations making a wide-spreading suburb. It is the seat of a Russian consul, has several mosques, two Buddhist temples, a Roman Catholic and a Greek Catholic church. Its chief industrial importance is created by its bazaars, caravans coming here from Bokhara, Khokand, etc., and the outlying lands are productive of wheat, barley, poppies, etc. The population of about 10,000 is mostly Mohammedan. This city is often termed Old Kulja to differentiate it from New Kulja, situated further down the valley and which lies in ruins, having been destroyed by the insurgent Dungans, in 1868, its inhabitants all being massacred.

KULLAK, kŭl'ạk, **Theodor,** German pianoforte musician: b. Krotoschin, Posen, 12 Sept. 1818; d. Berlin, 1 March 1882. He was a pupil of Albrecht Agthe at Posen, of Greulich at Berlin, Czerny and Sechter at Vienna and was popularly acknowledged in 1842 as a piano virtuoso. In the following years he lived at Berlin as piano instructor of Princess Anna of Prussia and was appointed (1846) court pianist. With Julius Stern and A. B. Marx he founded (1850) the Conservatory of Music and (1855) the "Neue Akademie der Tonkunst." He is not claimed to have been great as a composer but his instruction works are highly valued, especially his *Schule des Oktavenspiels* and his *Kinderleben.*

KULM, kŭlm, Bohemia, a town in the district Aussig, at the foot of the Erzgebirge. It has a brewery, iron-foundry, brown-coal mine, etc., and has a population of about 1,000. It is chiefly noted as being the scene of a battle 29 and 30 Aug. 1813, between the French, under Vandamme, and the allied Prussian, Russian and Austrian armies. It ended in the surrender of Vandamme and 10,000 men, 5,000 French being killed and many cannon and equipments captured.

KÜLPE, kül'pĕ, **Oswald,** German philosopher and psychologist: b. Candau, in Courland, 3 Aug. 1862. He was educated at Liban, becoming private teacher, then studying at the universities of Leipzig, Berlin, Göttingen and

Dorpat. He received the degree of doctor of philosophy in Leipzig (1887) and was made adjunct professor of philosophy and æsthetics (1894) at Würzburg where he, as director of the Psychological Institute, has done very effective service. Aside from many contributions to scientific periodicals he wrote 'Grundriss der Psychologie, auf experimenteller Grundlage dargestellt' (Leipzig 1893); 'Einleitung in die Philosophie' (ib.; 6th ed., 1913); 'Die Philosophie der Gegenwart in Deutschland' (ib.; 2d ed., 1904; 5th ed., 1911); 'Immanuel Kant' (3d ed., 1912); 'Psychologie und Medezin' (1912); 'Die Realisierung' (1912).

KULTURKAMPF, kool'toor-kämpf, a German term denoting the contest for political and legal rights waged between the authorities of Germany on the one hand and the authorities of the Catholic Church on the other. The conflict was begun by Bismarck in 1872 and had for its main point of dispute the control by the state of educational and ecclesiastical appointments. He urged that the declaration of Papal infallibility by the Vatican council in 1870 was an arrogation of rights dangerous to the state and that the Catholic Church had assumed an attitude of aggression dangerous to the laws of the state. The ill feeling arising from the questions at issue led the Reichstag to pass a law in 1872 expelling the Jesuits from the German Empire. The outbreak of the Kulturkampf, however, dated from the enactment of the May Laws (1873) aiming at state control of the clergy. The Catholic bishops, clergy and people refused to recognize the validity of the new laws. This opposition was met by still more drastic government measures and in 1875 all recusant priests were deprived of their salaries and all religious orders were abolished. The accession of Pope Leo XIII prepared the way, however, for a resumption of friendly relations between the Imperial government and the Catholic Church, and negotiations began in 1878 resulting in a nullification of the laws of 1873. The only remnants of the repressive legislation still in force are the proscription of the Jesuits and compulsory civil marriage.

KUM, koom, Persia, capital of the former province Irak Adjmi, southwest of Teheran. It is in an arid section on the trade route from Shiraz, via Ispahan, to Teheran, and is noted for the number of graves of Mohammedan saints, many thousands of pilgrims visiting yearly the supposed grave of Fatima, sister of Iman Riza. The town was destroyed by the Afghans early in the 18th century. Pop. about 28,000.

KUMAMOTO, koo'mą-mō'tō, Japan, city, capital of the province of Hiogo, on the island Kiusiu in the river Shirakawa. It has a formidable 16th century castle famous in connection with Kiyomasa, invader of Korea, and with the Satsuma rebellion in 1877, and now the headquarters of one of the 10 military districts of the kingdom. It is noted as an educational centre where American teachers have included Lafcadio Hearn and Capt. L. L. Japes; and its silk industries are important. Its harbor is passable only for flat-bottomed junks. It had 61,233 inhabitants in 1908.

KUMASSI. See COOMASSIE.

KUMAUN, kū-mā'ün, India, a division of the British-Indian northwest province, situated entirely in the Himalaya Mountains, bordered on the north by Tibet, on the east by Nepaul, and having an area of 13,725 square miles. Part of the division consists of high mountains, the more southerly Babhar being densely wooded highlands which, by artificial irrigation, afford good crops, the remainder being the swampy, unhealthy Terai. While possessing iron, copper, lead, asbestos, etc., they are but little exploited. The valuable forests are under the protection of the government as also are the numerous elephant herds. Barely one-fifth of the area is capable of agriculture and but little is tilled, but tea plantations have been cultivated recently. The division is made of three districts: Kumaun, Garwhal and Terai. The only true industry is the weaving of coarse cloths, but there is considerable trading done, chiefly in Almora. The health station, Naini Tal, is the summer residence of the lieutenant-governor of the Northwest Provinces and has its garrison. Consult Oakley, 'Holy Himalaya' (London 1905).

KUMBHAKONAM, kŏm'bą-kō'nŭm, or **CUMBACONUM,** India, a town in the district of Tanjore of the presidency of Madras, in the Cauvery delta. There is a college established here by the British, but the inhabitants, about 65,000, are mostly Mohammedans and Hindus. The town was once the capital of an ancient kingdom and is one of the oldest and holiest of India. It contains many ancient temples and palaces and is visited by large numbers of pilgrims.

KUMISS, koo'mĭs, a preparation of milk, whether cow's, mare's, ass's or goat's, which is said to possess wonderful nutritive and assimilable properties, so that it is very valuable in the treatment of consumption, scrofula, chronic diarrhœa and debility and emaciation in general. It consists essentially of milk in process of fermentation, and cow's milk is what is used for making it in Great Britain. On the Asiatic steppes, where it has been long used as a beverage, it is made of mare's milk, but kumiss of mare's milk or goat's milk has a somewhat unpleasant smell. The manufacture of kumiss is carried on in Switzerland, Russia and elsewhere. An analysis of a Swiss variety showed that it was composed of fully 90 per cent of water, nearly 3¼ of alcohol, rather more than 2 of sugar, about 1¾ each of butter and albuminates, besides lactic acid, free carbonic acid and inorganic salts.

KÜMMEL, kĭm'ĕl, **Henry Barnard,** American geologist: b. Milwaukee, 25 May 1867. He was graduated at Beloit College (1889) and took A.M. degree (1892) at Harvard, Ph.D. (1895) at Chicago University. He was appointed instructor (1889–91) at Beloit College Academy, assistant in geology (1891–92) at Harvard. He was made Fellow in geology (1892–95) at Chicago University and became assistant geologist to the New Jersey State Geological Survey (1892–98); he was assistant professor of physiography (1896–99) at Lewis Institute, Chicago, and assistant State geologist (1899–1902) for New Jersey, and executive officer to the Forest Commission of New Jersey (1905–15). From 1897–1901 he was associate editor of the *Journal of Geography,* and was

president of the Association of American State Geologists from 1908–13. He has contributed numerous useful articles to the periodicals, especially on the stratification of the New Jersey soils and similar subjects.

KÜMMEL, or **DOPPELKÜMMEL,** dōp ĕl-küm'ĕl, a liqueur produced by the distillation of alcohol with caraway seed or by mixing oil of caraway with alcohol, and adding sugar and water. The best-known kinds are Gilka "Getreidekümmel," from the Gilka factory at Berlin; Ekauer, a very strong and fine liqueur having much oil of caraway; and Allasch, the Russian kümmel made at Allasch, near Riga, and containing aniseed, fennel and coriander as well as caraway.

KUMMER, küm'ĕr, **Ernst Eduard,** German mathematician: b. Sorau, Silesia, 29 Jan. 1810; d. Berlin, 14 May 1893. He studied (1828–31) theology at Halle, then mathematics under Scherk, becoming gymnasium teacher at Sorau. From 1832–42 he taught mathematics at Liegnitz, where Kronecker was among his pupils. During this period he worked on the appendix to Gauss, especially on the hypergeometric (Gauss) series (Crelle's *Journal,* Vol. XV). In 1842 he became assistant professor at Breslau, then professor of mathematics, and was called to Berlin (1855) to succeed Dirichlet, teaching there in the Military Academy till 1874. He was permanent secretary of the Academy of Sciences from 1863, retiring from active work in 1884. In his second period he worked on the theory of numbers, led up to it by his work on cubic remainders (Crelle's *Journal,* Vols. XXIII and XXXII). He created the system of ideal prime numbers in order to overcome difficulties encountered in his work on complex numbers. In 1857 he was awarded the Grand Prize by the Paris Academy. He also devoted work later to advance the science of geometry. His 'Allgemeine Theorie der Strahlensysteme' (Crelle's *Journal,* Vol. LVII) led him on to the "Kummer surfaces," named after him. Other works by him are 'Über die Wirkung des Luftwiderstandes auf Körper von verschiedener Gestalt inbesondere auf die Geschosse' (1875). Consult *Jahresbericht der deutschen Mathematiker-Verein* (Berlin 1894), Vol. III.

KUMMER, Friedrich, German literary historian and dramatist: b. Dresden, 30 March 1865. His family was cultivated and artistic, particularly in the field of music. He was educated at the gymnasium of his native city, and at the universities of Leipzig, Tübingen and Berlin, where his studies were chiefly in philosophy, æsthetics and modern languages. His doctoral dissertation was on Schiller's 'Demetrius' (1889). His literary activity began at Berlin (1890–94), but since 1894 he has lived at Dresden, becoming a member of the staff of the journal *Dresdener Anzeiger,* in 1897. His principal work is in the field of 19th century German literature, 'Deutsche Literaturgeschichte des 19 Jahrhunderts' (1st ed., 1908, numerous reprints since), in which Kummer for the first time introduces into the study of literature the conception of the writer's generation as the dominant factor in his work. He divides the history of German literature in the 19th century into five generations, culminating, respectively, about 1820, 1835, 1850, 1871 and 1889 (the latter date indicating the rise of the naturalistic movement), and outlines the predominating causes of the attitude of each generation, together with a spirited and interesting elaboration of the contribution of each writer to the work of his specific generation. The book immediately produced a profound effect on students of literary history, as it led them to see the value of a social rather than a merely individual treatment of literary merit, and earned for Kummer the title of "Professor," conferred upon him the same year (1908). Kummer underestimates the material factors in literary history and exaggerates the factors of race (thus he attempts an explanation of the various groups of German writers on the basis of their origin from different German tribes, and their birth in different parts of the country), but the book has a permanent value as well as a sensational appeal. His dramas are 'Tarquin' (tragedy, 1889); 'Michael Weitmoser' (historical, 1892); 'Elfriede' (modern, 1892).

JACOB WITTMER HARTMANN.

KUMQUAT, küm'kwŏt, a genus of shrubs, *Fortunella,* of the family *Rutaceæ,* related to the orange. Several species are known, natives of China and Japan. The plants are 10 to 15 feet high, with small fragrant white flowers, and oblong or globose fruits 1 to 1¼ inches in diameter. Kumquats were introduced into the United States about 1850 and are now extensively grown along the Gulf Coast and in California. They are the hardiest of the citrus fruits, being able to withstand temperatures as low as 15° F. without injury. The fruits are eaten raw but are more generally used for making marmalade, jelly and candied fruit.

KUMUNDOROS, koo-moon'dü-rās, **Alexandros,** Greek statesman: b. Messenia, 1814; d. Athens, 27 Feb. 1883. He studied law at Athens. On his return to Crete he became one of the supporters of the revolution of 1841, and in 1843 was also an active revolutionist in the capacity of secretary to General Grivas. In 1851 he entered the Chamber of Deputies, becoming its president in 1855. He was subsequently appointed Minister of State with charge of the Department of Finance. After the fall of King Otto (1862), he was rewarded for his efforts by the appointment under George I to the chair of Minister of Justice. In 1864 and 1865 he was Minister of the Interior, and in the latter year became president of the Ministry, an office to which he was repeatedly re-elected until 1880. His home policy was to develop parliamentary power. He worked also for the extension of Greek power and the exclusion of Turkey, but this foreign policy was annulled by the Congress of Constantinople and he was compelled to withdraw (1882). Consult Bikélas, 'Coumoundouros' (Montpellier 1884).

KUNCHINJINGA, koon-chĭn'jĭn-gą, or **KINCHINJUNGA,** India, one of the highest peaks of the Himalaya Mountains. It has been computed at 28,146 feet, whereas Mount Everest is said to be 29,002 feet. Its location is in the northeast corner of Nepal.

KUNDT, koont, **August Adolf,** German physicist: b. Schwerin, 18 Nov. 1839; d. Israelsdorf, near Lübeck, 21 May 1894. He gradu-

ated at the Berlin University (1867), becoming teacher (*privatdocent*), going to the Zürich Polytechnikum (1868) as professor of physics, then (1870) to Wurzburg, next (1872) to Strassburg and being called (1888) to Berlin. He investigated first the acoustic vibratory motion of solids and gaseous bodies and discovered the dust figures in closed sounding tubes, which offer a medium for calculating the velocity of sound in gases and to compare these with those in solid bodies. He investigated the phenomena of the anomalous dispersion of light of substances which show strong absorption of certain colors. His researches in heat conductivity and friction in gases were very fruitful, also those into the rotation of the plane of polarization in gases and the optical characteristics of metals. His 'Vorlesungen über Experimentalphysik' was published by Scheel (Brunswick 1903). Consult von Siemens memorial in *Königliche preussische Akademie der Wissenschaften, Abhandlungen* (Vol. II, Berlin 1893).

KUNENE, koo-nā'nĕ, or **CUNENE,** Africa, a river having its source in the Portuguese province of Angola on the plateau of Bihé, receiving a number of lateral streams and flowing southward forms an immense swamp near Kiteve, to turn next in southeasterly direction where it receives the Kakulovar flowing from the Sierra da Chella. Thence it flows to the boundary of German Southwest Africa in a westerly direction and enters the Atlantic Ocean. It covers a course of 700 miles and at the outlet forms a sandbar hindering navigation besides having cataracts. Consult Baum, 'Kunene-Sambesi Expedition' (Berlin 1903).

KUNERSDORF, koo'nērs-dôrf, a village in the province of Brandenburg, Prussia, 10 miles north-northeast of Frankfurt-on-the-Oder, the scene of an important battle in the Seven Years' War, fought 12 Aug. 1759. A Prussian army of between 40,000 and 50,000 men under Frederick the Great attacked nearly twice that number of Austrians and Russians under Generals Landon and Soltykoff. In his initial attack on the Russian flank, Frederick gained considerable advantages, capturing 180 guns. Disregarding the advice of General Seidlitz, he next proceeded against the Austrians, who, however, held their ground and brought all their artillery to bear at close quarters, with the result that the Prussians were totally routed with a loss of 20,000. The other side lost even more, about 25,000.

KUNG TS'IN WANG, koong tch'ĕn wäng, or **KONG CH'IN WANG,** Chinese prince and statesman: b. 11 Jan. 1833; d. 2 May 1898. He was brother of the Emperor Hienfong and first (1860) became noted in the conflict with England and France as diplomatic mediator, when he made concessions to the Europeans, and was elected (1861) Minister of Foreign Affairs. On the death of the emperor, in the same year, he was appointed regent for his five-year-old nephew, Tungchi, after beheading the chiefs of the Old China party who tried to get the young emperor under their power. He rewarded the English and French for their assistance in suppressing the Taiping insurrection by carrying out reforms and affording religious tolerance. Several times, last of all in 1884, during the war with France he was in disgrace on account of his reforms and was robbed of his titles. From 1887 he was again regent, and, in 1894, was made president of the Tsung-li-Yamen. He was exceptionally progressive for a Chinese statesman.

KUNGUR, koon-goor', Russia, a circuit town in the government of Perm, situated at the junction of the rivers Iren and Sylva. It has 11 churches, a city bank, numerous tanneries and shoe factories, iron foundries, machine shops, etc. Its industrial resources include trade in grain, leather goods, hardware, etc. In 1910 it had a population of 19,638. In the vicinity are great caves on the banks of the Iren.

KUNIGUNDE, koo'nē-gŭn'dĕ, **Saint:** d. Kaufungen, near Cassel, 3 March 1039. She was a daughter of Count Siegfried of Luxemburg and wife of Emperor Heinrich II. Legend says both vowed to live in celibacy. She was active during the foundation of the bishopric of Bamberg in 1007. The legend that she passed unscathed through the fire test in order to prove her innocence when accused of infidelity has been proven false. After Henry's death (1024) she became a nun in the convent at Kaufungen, which she had founded, and died there. She was buried in Bamberg Cathedral. In 1200 she was canonized by Pope Innocence III. Her saint's day is 3 March. Consult Looshorn, 'Gründung und erstes Jahrhundert des Bistums Bamberg' (Munich 1886); Toussaint, 'Geschichte der heiligen Kungigunde von Luxemburg' (Paderborn 1901); Gunther, 'Kaiser Heinrich II, der Heilige' (Kempten 1904).

KUNTH, koonth, Karl Sigismund, German botanist: b. Leipzig, 18 June 1788; d. Berlin, 22 March 1850. He went to Berlin in a commercial capacity but was influenced by Alexander von Humboldt to take up the study of botany and classified and described the collection of plant life collected in America by Humboldt and Bonpland, settling in Paris (1813) for this purpose. It was here that his 'Synopsis' (Paris 1822–25) was published concerning the Humboldt and Bonpland plant collection; also his 'Mimoses et autres plantes légumineuse du Nouveau Continent recueillies par Humboldt et Bonpland' (ib. 1819–24, with 60 colored plates); 'Distribution méthodique de la famille des graminees' (id. 1835, 2 vols., with 220 plates), also 'Nova genera et species plantarum' (ib. 1815–28, 7 vols., with 700 copper-plate engravings) issued in conjunction with Humboldt. At the same time he planned a herbarium containing 30,000 kinds. After traveling in England and Switzerland he was appointed (1819) professor of the Berlin University and made vice-director of the Botanical Gardens. He wrote also 'Enumeratio plantarum omnium hucusque cognitarum secundum familias naturales disposita' (Stuttgart 1833–50, 5 vols.), which work treats of the greater part of the monocotyledons.

KUNZ, koonts', George Frederick, American gem expert: b. New York city, 29 Sept. 1856. He was educated in the public schools and Cooper Union, and has received the degrees of A.M. from Columbia University in 1898; Ph.D. from the University of Marburg, 1903; D.Sc. from Knox College, 1907. He is president of the American Scenic and His-

toric Preservation Society; vice-president of the City History Club; past president and Fellow of the New York Academy of Science; past president and Fellow of the American Association for the Advancement of Science; president of the Museum of Peaceful Arts; past president of the New York Mineralogical Club, 1915; past vice-president of the American Institute of Mining Engineers; Fellow of the Geological Society of America; honorary member of the Uralian Natural History Society of the Ural Mountains; correspondent of the Histoire Naturel, Paris; honorary correspondent of the Chambre Syndicale Pierres Précieuses, of Paris. He was special agent of the United States Geological Survey, 1882–1909. He was placed in charge of the department of mines at the Omaha, Atlanta, World's Columbian and Paris expositions. He was juror of the Nashville Exposition in 1898 and of the Jamestown Exposition in 1907. Chairman of the Honorary Committee of the Berlin Exposition, 1910; chairman sub-committee on Scientific Exhibits of the Hudson-Fulton Celebration Commission; president of the Joan of Arc Statue Committee. He is third vice-president and gem expert of Tiffany and Company; honorary curator of precious stones in the American Museum of Natural History. He has the decoration of the Order of the Red Eagle, fourth class, of Germany; he is Chevalier of the Legion d'Honneur of France; Officer d'Instruction Publique de France; Knight of Saint Olaf of Norway; Officer of the Order of the Rising Sun of Japan. He has written annual reports (1882–1905) on the production of precious stones in mineral resources of the United States. He has published 200 pamphlets on gems, precious stones, mineralogy, meteorites, folklore and scenic conservation. He has published 'Gems and Precious Stones of North America'; 'Precious Stones of Mexico'; 'Gem Materials of California'; 'The Curious Lore of Precious Stones'; 'The Magic of Jewels and Charms'; 'Ivory and the Elephant.' He is also senior editor of the 'Book of the Pearl'; 'Rings of All Ages.' Dr. Kunz is a member of the Century Association, the Union League, Grolier, Mineralogical clubs, and is honorary vice-president of the Tuna Club of California.

KÜNZE, koon'tsĕ, **John Christopher,** American Lutheran theologian: b. Artern, Saxony, 4 Aug. 1744; d. New York, 24 July 1807. He studied theology in the gymnasiums of Bossleben and Merseburg, and at the Leipzig University. After several years teaching as docent, he came to Philadelphia (1770), appointed associate pastor of the Lutheran church, keeping a theological seminary at the same time and acting as professor of Oriental languages at the Pennsylvania University (1780–84). He became pastor of the Lutheran church at New York in 1784, serving as professor of Oriental languages and literature at Columbia (1784–87) and again (1792–99). He was one of the early advocates of the need of teaching English to German youth, and he aided in introducing the English language in German churches in the United States. He wrote 'A Hymn and Prayer Book for . . . Lutheran Churches' (New York 1795), the first American-published Lutheran hymnbook. Consult Norton, C. E., 'Four American Universities' (New York 1895); Appleton's *Cyclopædia of American Biography* (Vol. III, ib. 1898).

KUNZITE, koon'tsīt, the name of a precious stone found in southern California; so called in honor of Dr. George F. Kunz, the special agent in charge of precious stones, United States Geological Survey, since 1882. It is a brilliant gem and is between the topaz and pink sapphire in color. A rose-lilac is the tint which marks this stone, a color new among gems; and its radiance is peculiar and beautiful.

Kunzite was brought to light in 1902 near Pala, in San Diego County, Cal., and was sent for classification to Dr. Kunz, the eminent mineralogist of New York. Much attention was attracted by the beautiful lilac-colored crystals, for nowhere in the country, not even in the American Museum of Natural History at New York, which has the finest collection of spodumene, under which the new gem was classed, had there been seen such remarkable and perfect specimens as these. Dr. Kunz identified the gem and described it; but Dr. Charles Baskerville, professor of chemistry in the University of North Carolina, finally subjected it to ultra-violet light, then to the rays of high penetrative power, and lastly to the bombardment of the corpuscles shooting out from radium, which resulted in some wonderful effects new to the scientific world. Of these effects Dr. Charles Baskerville, who took the liberty of naming the gem "Kunzite," for his friend, gives the following account:

"On examining this gem we directed our attention to discovering the effect of radium on precious stones. It was shown early in the experiments of the French mineralogist, Curie, that many diamonds phosphoresce, that is, glow in the dark, after being exposed to the emanations of radium. All diamonds phosphoresce with radium, as we learned by applying the test to about two thousand gems collected from some fifteen thousand. The gem in which we were particularly interested belongs to the class of spodumene. Mineral spodumene is usually obtained in large opaque whitish crystals, but from time to time small specimens, often richly colored and transparent, are found. The three characteristic varieties of the latter are a clear yellow gem spodumene of Brazil, the green hiddenite, or lithia emerald of North Carolina, and the lilac sometimes found in Connecticut. These are without doubt remnants of large specimens, which must have been elegant. Spodumene is very subject to alteration and has usually lost all its transparency and beauty of tint."

The California spodumene crystals are of a rose-lilac tint, varying with the spodumene dichroism, from a very pale tinge when observed transversely to the prism, to a rich amethystine hue longitudinally. No such crystals of spodumene have ever been seen before, and the discovery is of great mineralogical interest. The crystals have been etched by weathering and have a twinning like the hiddenite variety. When cut and mounted parallel to the base, they yield gems of great beauty. Baskerville, Kunz and Crookes have found this almost as luminously responsive to the action of radium as the diamond.

KÜOPIO, Russia, a government in the eastern part of the grand duchy of Finland, surrounded by the governments Uleaborg, Vasa,

Saint Michel and Wiborg and in the east by the Russian government Olones. It has an area of about 16,498 square miles, of which over 16 per cent consists of lakes. The chief industries are the fisheries, forestry, agriculture and cattle breeding, also butter production. A considerable amount of iron ore is produced. Pop. 327,573, mostly Finns.

KÜOPIO, kü-ŏp'ĭ-ō, Russia, capital of the government of the same name, situated on Lake Isalmi Railway. It is the bishop's seat and has Kalla-vesi and on the Kuivola, Kuopio and a modern cathedral, fine park, two lyceums and several trade schools and has considerable commerce. Pop. 15,845.

KUR, koor, or **KURA,** koo'ra, Russia, largest river in Transcaucasia, known in ancient days as Kyros. Its source is in the province of Kars, whence it runs, edged in by mountains, flowing in a southeasterly direction through the governments of Tiflis, Jelissavetpol and Baku; it enters an arid steppe and, branching out into several arms, falls into the Caspian Sea. Its course runs for 830 miles and is navigable for steamers for 130 miles up to the junction of the Aras branch. The leasing of the fisheries near Saljany and Boshij Promsyl afford the state 1,000,000 rubles yearly. The most important places along its shores are Ardagan, Gori, Mzchet, Tiflis and Djwat.

KURANDA, koo-rän'dą, **Ignaz,** Austrian publicist and statesman: b. Prague, 1 May 1812; d. 4 April 1884. He was the son of a Jewish bookseller, studied in Vienna and did journalistic work on the leading papers at Leipzig, Stuttgart and Brussels. He founded (1841) in Brussels a weekly, *Die Grenzboten,* the editorial offices of which were transferred to Leipzig, where he issued the work, 'Belgien in seiner Revolution' (Leipzig 1846). In the same year his drama, 'Die letzte weisse Rose,' was performed successfully at the Hofburg Theatre, Vienna. In 1848 he was elected member of the Frankfort Parliament. He went to Vienna and founded the *Ostdeutsche Post,* a political paper conducted with dignity, which lasted till 1866. He was a common councillor and elected member of the Reichsrat in 1867, where he became one of its most noteworthy political orators.

KURDISTAN, koor-dē-stän' (Persian, "land of the Kurds"), an extensive territory of western Asia, comprehending the greater part of the mountainous region which borders on the western side of the great plateau of Iran or Persia, and stretches westward till it overhangs the low plains of Mesopotamia on the southwest, and reaches the borders of the Turkish provinces of Diarbekir and Erzerum on the northwest. The surface is very mountainous, and is traversed by lofty ranges with summits reaching above 10,000 feet in height, stretching northwest to southeast. The whole surface on the west of the Persian frontier is drained by the Tigris and the Euphrates and their tributaries. Unless Lake Van is considered as partly within the territory, there are no lakes of any consequence. The mountains are covered with forests of oak and other hard timber. Many of the valleys are under regular culture, with corn-fields, orchards and vineyards. One of the most remarkable vegetables is manna, expressively called in Turkish *Kudret-hal-vassiz,* or the Divine sweet-meat, which is used as food. Fine horses and oxen are bred, and sheep and goats are kept in large numbers.

The Kurds are a stout, dark race, well formed, with dark hair, small eyes, wide mouth and a fierce look. Most of the men are armed, using lances, sabres, daggers, muskets and pistols. Many of the tribes are still nomadic. The language is of the same stock as the modern Persian. The great body of the Kurds are Mohammedans. They care little for trade, although they send to Kirkuk, Hamadan, etc., gall-nuts, tobacco, honey, sheep-skins and cattle; obtaining in return coffee, rice, leather and clothing, (chiefly cotton goods). Their allegiance to the Turkish sultan is but slight. The famous Sultan Saladin was a Kurd. In the terrible massacres of Armenian Christians instigated and carried through by the Turkish government in 1914 and 1915, during the progress of the Great European War, the Kurds took an active and sinister part. It is very difficult to form even an approximate estimate of the whole Kurd population; the Turkish portion is supposed to contain about 2,500,000, and the Persian portion 400,000; but another estimate would give for these numbers 1,300,000 and 500,000, respectively.

KURDS, koordz, or **KOORDS,** an Asiatic people of Iranian descent dwelling in a section named after them Kurdistan, "the land of the Kurds" (q.v.), located in Persia and Turkey in Asia. They number about 2,300,000 and are nearly all Islamites. They are of mixed character, brave, freedom loving, hospitable, rather shy, and, to some extent, true to their word; on the other hand they have no liking for orderly work, are firmly devoted to bloody revenge and consider a robbery equally honorable as heroic acts. They have great family love, the nomads wandering with their tents of black skins or the settlers living in low houses with flat wooden roofs, that serve in summer time as sleeping quarters. Their women have more freedom than is usual among Orientals, going outdoors unveiled, dealing with men without timidity. The girls, as a rule, are given in marriage at from 10 to 12 years of age upon a dower payment. Only the rich and élite have a plurality of wives. For head covering they use the Turkish turban or a globular yellow fur cap; they shave the head generally, wearing only a mustache, the aged alone wearing a full beard. Their weapons are long riders' lances, sabres and pistols; the fighters on foot carry guns, and a dagger in the belt. Their history dates back to the Gutu of ancient Assyria in which empire they appear to have had an independent political position; they were merged with the Medes after the fall of Nineveh. Cyrus subjugated them, since which they have been under the domination of the Macedonians, Parthians and Sassanians, successively. After numerous insurrections their chief fortress, Sermaj, was captured, in the 9th century, and reduced by the caliphate of Bagdad, but they appear to have been in the zenith of their power in the 12th century and held sway over the Kurdistan Mountains, and included Khorasan, Egypt and Yemen. The invading Mongolians and Tatars appear to have held them later in subjection. For further facts consult Lerch, 'Forschung über die Kurden' (Saint Petersburg 1857–58);

Roediger and Pott, 'Kurdische Studien' (in *Zeitscrift für Kunde des Morgenlandes, Vols.* III–VII); Schläfli, *Beitrage zur Ethnographie Kurdistams* (in Petermann's *Mitteilungen*, 1863); Milligen, 'Wild Life among the Koords' (London 1870); Creagh, 'Armenians, Koords and Turks' (ib. 1880); Chantre, 'Les Kurdes,' in *Bulletins de la Société d' Anthropologie de Lyon* (Lyons 1889).

KÜRENBERG, kü'rĕn-bĕrk, **Der von,** or **der Kürenberger,** a German minstrel of the 12th century. His short love songs belong to the ancient folklore as to their subjects and are composed in Nibelungen stanzas. He came of knightly family of Austrian origin located either at Linz, Burghausen or Schala, each of which places had branches of this family. He is called the oldest Minnesinger, and his songs are collected by Hauptin 'Des Minnesangs Frühling' (4th ed., Leipzig 1888), and in Bartsch's 'Deutsche Liederdichtern' (4th ed., Stuttgart 1901); Bühring, 'Das Kürenberg Liederbuch nach dem gegenwärtigen Stand der Forschung' (Arnstadt 1901–02). Pfeiffer and Bartsch considered he was the originator of the Nibelungenlied. Consult Vollmüller, 'Kürenberg und die Nibelungen' (Stuttgart 1874); Eugen, Joseph, 'Die Frühzeit des deutschen Minnesangs, Quellen und Forschungen' (Strassburg 1886).

KURIA MURIA (koo'rē-ā mŏo'rē-ā) **ISLANDS,** a group of five islands situated off the southern coast of Arabia at distances varying from 10 to about 30 miles, with a total area of over 25 square miles. Guano deposits are found in these islands, but they are considered to be barren and have very few inhabitants. In 1854 they were ceded to Great Britain.

KURIHAMA, koo'rē-ą'mą, Japan, a mile west of the village of Uraga, where, on 14 July 1853, Commodore M. C. Perry anchored his four vessels. On 14 July 1901, the monument, a monolith of Sendai granite, inscribed in letters of gold (now in black), penned by the Marquis Ito and reared by the America's Friends Association, and to which the Mikado subscribed a thousand yen, was unveiled in the presence of Perry's grandson, Commodore Rogers, with three American men-of-war, part of the imperial navy and a great company of distinguished Japanese. The military and naval display included the various types in the development of the Japanese fleet, showing progress from the war junk to the battleship. A dozen or so of natives, who remembered the scene of 1853, were present. The Perry monument stands enclosed by 36 granite posts, linked by ship's anchor chains, in the centre of a broad square enclosed by banks faced with stone. In 1917, Capt. Thomas Hardy of Seattle, Wash., aged 84, one of the oarsmen who rowed Perry ashore, visited Japan at the invitation and expense of the school children of the empire and received honors from the emperor, officials and people and children everywhere. Ten miles down the bay is the Marine Biological Laboratory of Misaki, from or to which many Japanese students in the American institution of similar purpose at Wood's Hole, Mass., have studied.

KURILES, koo'rīlz, a chain of 31 islands in the north Pacific Ocean, belonging to Japan (q.v.). Area, 6,068 square miles. The highest elevation is 7,382 feet. The chain extends southwest to northeast from Yezo to Kamchatka. They are divided into the Great and the Little Kuriles. Pop. 4,400. Consult Snow, 'Notes on the Kurile Islands' (1896).

KURISCHES HAFF, koo'rĭsh-ĕs häf, Prussia, the largest of Prussia's lagoons, reaching from Labiau to Memel, 60 miles long and separated from the sea by a sand-bar called the Kurishce Nehrung. A number of rivers are discharged into this lagoon, such as the Dange, Minge, Russ and Gilge, etc. While navigation is carried on in the "Memel Deeps," a channel connecting with the North Sea and 12 feet deep and about 1,000 feet wide, this lagoon has little shipping value. The water is fresh, being fed by the above-mentioned rivers and the much larger Memel or Niemen.

KÜRNBERGER, kürn'bĕrg-ĕr, **Ferdinand,** German novelist and critic: b. Vienna, 3 July 1823; d. Munich, 14 Oct. 1879. He studied philosophy at Vienna, but turned to journalism (1846), fled from his native town (1848) as a revolutionist, but returned (1859) and settled in Graz (1865), then Vienna (1867). His novel 'Der Amerikamüde' (Frankfort 1856) made his reputation. Other works of his are 'Das Goldmärchen' (Vienna 1857); 'Novellen' (Munich 1861–62), a collection of feuilletons on Austrian history from 1859–73, generally in satirical strain; 'Siegelringe' (Hamburg 1874); 'Der Haustyrann' (Vienna 1876), a novel. His chief attempt at dramatic composition was 'Catalina' (Hamburg 1855). He was a pessimist but made a good critic with his frankness and deep poetic understanding. W. Laufer brought out a volume of posthumous works entitled 'Novellen' (Stuttgart 1893), and Karl Rosner published his 'Schloss der Frevel' (Leipzig 1904), a novel. Consult Mulfinger, 'Kürnbergers Roman der Amerikamüde' (Philadelphia 1903).

KURO SHIWO, koo-roo shē'wō (literally, "dark blue salt"), or, in common parlance, the black current or stream. It was distinguished from the water on either side of it and named by the Japanese ages ago. An old Japanese map shows the general features of the northern Pacific, Bering's Strait and islands and its shores quite accurately delineated. Yet this river of warm water in the Pacific Ocean was first scientifically studied and described by Lieut. Silas Bent, U.S.N., in Perry's expedition 1852–54, who made a report, the statements and suggestions in which have been in the main confirmed by later investigators. In history, this stream of black brine contributed notably to the peopling of both Japan and America and to its flora and fauna. The first host of invaders from the Asian continent through Korea were aided by it to reach Idzumo and Hiuga, and the second set, or the great drift of humanity, from the Malay world, made good use of the current and landed at many points on the coasts of Japan. The Kuro Shiwo is bent southward, not by impinging on the land, but is prevented from entering the Arctic Ocean by the Bering Strait, which at its deepest is only 30 fathoms, or 180 feet deep, and much less than 50 miles wide, and in it are three islands. Through this opening the

cold water rushes from the icy seas, drawing or pushing the Kuro Shiwo eastward. Though fogs abound, only a little polar ice comes through, with no icebergs, as in the Atlantic Gulf Stream. One curious effect was to supply the Hawaiian Islands with the splendid timber of "Oregon" — a word which ultimately came to mean anything unusually fine and is so used, as an adjective, in the Hawaiian version of the Bible. Consult Perry's 'Narrative of the Japan Expedition' (1857); Rein's 'Japan' (1884); 'Transactions of the Asiatic Society of Japan.'

KUROPATKIN. See KOUROPATKIN.

KÜRSCHNER, kürsh'nĕr, **Joseph,** German author and editor: b. Gotha, 20 Sept. 1853; d. on a journey to Huben, 29 July 1902. His first employment was in mechanical engineering, then he studied at the Leipzig University, thereupon (1875) living several years in Berlin. He managed the Stuttgart periodical *Vom Fels zum Meer* (1881–89) and founded *Deutsche Nationalliteratur;* he was appointed literary director of the Deutsche Verlagsantalt and removed (1893) to Eisenach. He devoted some time to compiling theatrical history, then became editor (1880–82) of *Neue Zeit,* official organ of German dramatical authors and composers, then (1885–86) he edited *Deutsche Schriftstellerzeitung,* etc. After editing several encyclopedias he compiled *Allegemeiner deutscher Literaturkalender* from the fifth to 24th yearly issue. He wrote also 'Konrad Ekhof' (1872); 'Heil Kaiser, dir!' (1897); 'Frau Musika' (1898); 'Kaiser Wilhelm II als Soldat und Seemann' (1902).

KURSK, Russia, a government bounded by the governments Tchernigov on the northwest, Orel on the north, Voronesh on the east and Charkov and Poltava on the south and southwest. It covers an area of about 17,937 square miles. It consists of a wide plain framed in by heights which discharge their water by over 400 rivers of which the Sein is chief. It has a population of about 3,133,500, mostly Great Russians, who have, however, adopted many of the customs of the Little Russians, all belonging to the orthodox Greek Church. It is one of Russia's most fertile governments. The chief industry is agriculture with a large output of wheat, rye, oats, barley, buckwheat, sugar-beets, hemp, etc. It has a great growth of fruit such as apples, cherries and plums; the bee-culture, has, however, declined greatly and its cattle trade is small. Manufactures are inconsiderable, sugar being the most prominent along with oil-pressing.

KURSK, kûrsk, Russia, capital of the government of the same name situated on the mouth of the Kur River and a junction of several railways. It has 16 orthodox Greek churches, a Lutheran church, priests' and teachers' seminaries, two gymnasia, a high school and a school of geodetics, besides banks, theatre, commercial exchange, etc. Considerable industry is carried on in leather work, steam grinding mills, oil-pressing, pottery, tobacco manufacturing, as well as commerce in grain, tallow, hemp and hemp-oil, and bristles. Pop. 83,330.

KURTH, kėrth, **Godefroid,** Belgian historian: b. Arlon, 11 May 1847; d. Assche, Brabant, 4 Jan. 1916. From 1872 to 1906 he was professor at the University of Liège, and from the latter year until his death was director of the Belgian Historical Institute, Rome. He was a member of the Academy of the Catholic Religion of Rome, of the Royal Society of Literature of London, of the Dutch Literary Society of Leyden, of the Royal Academy of Belgian and of other societies Belgian and foreign. He was president of the board of administration of the Royal Library, Commander of the Order of Leopold and Knight of the Order of Pius IX. He wrote 'Caton l'ancien'; 'Etude critique sur Saint-Lambert et son premier biographe'; 'La loi de Beaumont en Belgique'; 'Les origines de la civilisation moderne'; 'Les origines de la ville de Liège'; 'Histoire poétique des Merovingiens'; 'La frontière linguistique en Belgique et dans le nord de la France' (2 vols.); 'Les études franques'; 'L'eglise aux courants de l'histoire'; 'Clovis' (2 vols.); 'Chartes de l'Abbaye de Saint-Hubert en Ardenne'; 'Notger de Liège et la civilisation au Xe siècle' (2 vols.); 'La cité de Liège au moyen âge' (3 vols.); 'Manuel de l'histore de Belgique'; 'Abrégé de l'histoire de Belgique'; 'Manuel d'histoire universelle' (2 vols.); 'Notre nom national'; 'Mizraïm, souvenirs d'Egypte'; 'La nationalité Belge.' He founded and became first director of *Archives Belges, revue critique d'historiographie nationale.*

KURZ, kûrts, **Heinrich,** German historian of literature: b. Paris, 28 April 1805; d. Aarau, 24 Feb. 1873. Of German parents, he studied at Leipzig and Paris, and lived in Munich and Augsburg from 1830, in the latter city publishing a constitutional opposition paper, *Die Zeit,* which caused his incarceration after a few weeks. He next removed to Switzerland teaching German and literature in Saint Gall and was promoted to professor (1839) at Aarau and made librarian also (1846). The rich treasures of the Aarau Library furnished him material for the study and research in German literature. He wrote 'Handbuch der poetischen Nationalliteratur der Deutschen seit Haller' (Zürich 1840; 3d ed., 1859); 'Handbuch der deutschen Prosa von Gottsched bis auf die neueste zeit' (ib. 1845–53); 'Geschichte der deutschen Literatur' (Vols. I–III, Leipzig 1851; Vol. IV, 1868–72), his greatest work, which reached its seventh edition in 1876. He also edited 'Esopus von Burkard Waldis'; 'Simplizianische Schriften' of Christoffel von Grimmelshausen; Fischart's 'Dichtungen'; Wickram's 'Rollwagenbüchlein.' He edited collective works of Goethe (1867–68) and of Schiller (1867–68) in 12 and 9 volumes, respectively, also of selected works of Lessing, Herder, Wieland, Chamisso, von Kleist and E. T. A. Hoffmann, and compiled 'Die deutsche Literatur im Elsass' (Berlin 1874).

KUS, a semi-wild tribe of Dravidians inhabiting parts of Bengal and Orissa. They are also generally known as Khonds and number over half a million. See KHONDS.

KUSI, koo sē. See COOSY.

KUSKOQUIM, kŭs'kō-kwĭm, Alaska, the second river in size in the Territory, rising on the northern slopes of Mount McKinley, and after a southwestern course of over 650 miles, flowing through the wide estuary of Kusko-

quim Bay into Bering Sea, about 200 miles south of the Yukon Delta. It is navigable for about 500 miles. The trading stations along its banks are Kolmakof, Oknagamut, Odgavigamut, Gavimamutt and Bethel. The inhabitants in the region are chiefly Indians and Eskimos. Gold was discovered in the valley of the Kuskoquim in 1903 and the valley is now dotted with mining camps.

KUSSMAUL, küs'moul, **Adolf,** German physician: b. Graben, near Carlsruhe, 22 Feb. 1822; d. Heidelberg, 28 May 1902. He studied at Heidelberg, became assistant of Nägele and Pfeufer, and removed (1847) to Vienna, then Prague and became (1848) military surgeon for Baden. He became instructor (1855) at Heidelberg University, and was appointed adjunct professor (1857) and professor (1859) and director of the medical clinic and polyclinic at Erlangen. In 1863 he practised in Freiburg in Breisgau and (1876) at Strassburg. He retired (1889) and lived at Heidelberg. He made useful researches in epilepsy, advanced the treatment of diseases of the stomach by usage of the stomach-pump. He wrote 'Die Farbenerscheinungen im Grunde des menschlichen Auges' (Heidelberg 1845), an invaluable work; 'Untersuchungen über das Seelenleben des neugebornen Menschen' (Leipzig 1859; 3d ed., Tübingen 1896); 'Untersuchungen über den constitutionellen Merkurialismus und sein Verhältnis zur constitutionellen Syphilis' (Würzburg 1861); 'Ueber die Behandlung der Magenerweiterung durch eine neue Methode' (Freiburg 1869); 'Zwanzig Briefe der Mens schenpocken und Kuhpockenimpfung' (Freiburg 1870); 'Die Störungen der Sprache' (Leipzig 1885), in Ziemssen's 'Handbuch der Pathologie'; 'Jugenderrinnerungen eines alten Arztes' (Stuttgart 1899; 8th ed., 1909).

KUSSNACHT, küs'naht, recently called **KUSSNACH,** Switzerland, a village, the capital of a district in Canton Schwyz, located at the foot of the Rigi Mountain on the shore of the Kussnach Lake, an arm of Lake Lucerne. It is the landing station for the lake steamers that ply round this superbly beautiful region. A fountain has been erected here in memory of William Tell, and on the spot nearby, where legend states Gessler was shot, is Tell's Chapel, and the ruins of the castle supposed to have been the Gessler abode. Pop. 3,981.

KUSTENDJE, kü-stĕn'jĕ, or **CONSTANTZA,** Rumania, capital city of the Dobrudja, located on the Black Sea and on the Constantza-Tchernavoda Railway, which here bridges the Danube. The ancient remains of the end of the so-called Trajan's Wall is located here. Among its public and prominent buildings are a cathedral, Greek, Protestant, Catholic, Armenian and Bulgarian churches, eight state subsidized mosques, a gymnasium, four public schools, etc. The modern constructed harbor, finished 1902, has a breakwater and docking basins, freight elevators, etc. A large export trade is done in grain, sheep and petroleum and considerable merchandise is imported here, chiefly textiles, cast-iron goods and colonial wares. It stands in direct communication by steamer with Constantinople, and its importance led to its early seizure by the Central Powers when war entered this kingdom (see WAR, EUROPEAN). This city is the site of the old Roman town Constantiana and was the place of exile of Ovid. The Russians and Turks met here in the War of 1854. Pop. 26,628.

KÜSTENLAND, kü'stĕn-länt, Austria, the coastal lands or littoral comprising the three Crown lands: Görz, Gradisca, Istria and the city of Trieste with its district. In the administration of these Crown lands Trieste is the focal point; Görz, Gradisca and Istria have independent representatives, Görz and Gradisca having 22 delegates and Istria 33, the conventions meeting at Görz and Parenzo. The political administration is at Trieste, vested in the governor, judiciary and finance branches. The area of the littoral lands is 3,077 square miles, with about 894,457 inhabitants. Consult Czoernig, von, 'Die ethnologischen Verhältnisse des Oesterreichischen Küstenlands' (Trieste 1885); id., 'Spezialortsreportarium des österreichisch-illyrischen Küstenlandes' (Vienna 1894), published by the Central Commission on Statistics.

KÜSTRIN, küs'trēn', or **CUSTRIN,** Prussia, a town and fortress of the first rank in the government district Frankfurt, located at the confluence of the Warthe and Oder rivers and the junction of several railways. Its chief prominent buildings are three Evangelical churches, one being the Saint Mary Church containing the graves of the Margrave Johann and his wife, Katharina; a Catholic church, synagogue, handsome town-hall and newly-erected bridges spanning the Oder and Warthe. There is a noteworthy monument to the Margrave Johann von Küstrin in the palace grounds, and a statue of the Grosser Kurfürst. Its industries consist of a potato meal factory and manufactures of fire-extinguishing apparatus, pianos, varnishes, roofing paper, hot-bed frames, wagons, furniture, cigars, ovens, etc., besides flour mills, saw mills, machine works, woodcresoting works, pottery, etc. The crown prince, later Frederick the Great, was held prisoner here by his father from 1730–32. The town was bombarded by the Russians in 1758, and the fortification was surrendered, 1 Nov. 1806, to the French upon the arrival of a small party of cavalry and was held till 1814. Pop. 17,600.

KUTAIA, koo-tī'a, or **KUTAHIA,** Turkey, the capital of a sandjak in the vilayet Brusa, Asia Minor. It is located in a fertile district, has an ancient Byzantine fortification, numerous mosques and baths, and a number of churches. The agricultural products are grain, tobacco, poppy, vegetables and fruit. Very pretty faience is made here, but the former thriving potteries are mostly extinct. It has considerable commerce in wool, goats' hair, hare-pelts, opium and meerschaum. The Mehemed Ali peace with the Porte was made here 14 May 1833, and it was here that Kossuth was interned from 1850–51. Pop. 27,000, mostly Mohammedans.

KUTAIS, Russia, a government in Transcaucasia, bordered on the west by the Black Sea, on the north by the provinces, Kuban and Terek, on the east, southeast and southwest by the governments Tiflis, Kars and the vilayets Erzeroum and Trebizond, respectively. It has an area of 8,145 square miles, consisting largely of mountains, the Ryon River and its tributaries,

flowing through the only level lands. The southwesterly part is the most fertile in the Caucasus. The agricultural products raised are corn, wine, tea, ramie, wheat, nuts, figs, pomegranates, cherries, rye and barley, and the cattle, horses, asses, mules of this country are noted. Silk also enters into the cultivation. Of its mineral output manganese is the most important, but coal, lead, silver and copper are mined, also marble and fire-clay. Its population is about 1,025,300, represented chiefly by the numerous tribal races of the Caucasus, followers of the orthodox Greek Church chiefly, the remainder being mostly Mohammedans.

KUTAIS, koo-tīs, Russia, capital of the government of the same name, in Transcaucasia, located on the Rion River and the Rion-Kutais-Tkvibuli Railway. It is the seat of government and has two gymnasiums, a high school and district school. Its magnificent cathedral of Georgian architecture dating from the 11th century was laid in ruins by the Turks in 1692, and has not been restored. The chief industries are hats and silks. Pop. 57,361, including many Armenians and Jews.

KUTCHIN, kŭ-chĭn', a name given to the tribes of the Athabascan Indians who live near the Yukon River in Alaska, and in British North America down to the lower Mackenzie Valley. They are also called Loucheux and Quarrelers. They number less than 2,000. They are very fond of games and athletic contests, and are of a hardy, manly and warlike disposition. They are among the most hospitable of the Indian tribes of the American continents. Guests are entertained for weeks and even months at a time. Property is carefully recognized by the Kutchin and the chiefs, medicine men and those in general, who possess wealth or rank or both, have several wives. They have somewhat complicated religious ceremonies and myths, and the medicine men possess very great authority, exceeding that of the chiefs. Consult Petitot, 'Autour du lac des Esclaves' (1891); 'Géographie de l'Athabaskaw — Mackenzie et des grands lacs du bassin artique' (Paris 1875); Schoolcraft, 'Indian Tribes.'

KUTTENBERG, kŭt'tĕn-bĕrk, Bohemia, known to the Czechs as Hora Kutná, a town on the Vienna-Tetschen branch of the Austrian North-West Railway. It has nine churches, among them the beautiful unfinished Saint Barbara Church of the 14th and 15th centuries, in Gothic style, and the Saint Jacob's with its high tower. The old royal Wälsche Hof castle of the 13th century and its beautiful chapel as well as the Mint are notable structures, also the town-hall. It has several industrial schools, the old Headek castle converted into a Czech teachers' seminary, the Ursuline convent, etc. Its industries consist of fruit and vegetable raising, sugar, alcohol factories, a brewery, machine works, iron foundry, organ factory, etc. The foundation of the town originated from the discovery of silver ore and mining flourished in the 13th century. Pop. 15,542.

KUTUSOV, Michail Ilarionovitch Golenishtchev, PRINCE OF SMOLENSK, Russian field-marshal: b. 16 Sept. 1745; d. Bunzlau, 28 April 1813. Entering the army in 1765 he fought against the Poles from 1769, against the Turks 1770; he lost an eye (1774) in the Crimean campaign, and then dwelt abroad for some years. He was made major-general (1784), and, at the sieges of Odessa (1790), Bender and battle of Rimnik, and of Ismail and Matchin (1791) under Suvarov, he gained fame. In 1793 he was appointed Ambassador to Constantinople and later Ambassador at Berlin. After the tsar's assassination (1801) he was appointed governor-general of Saint Petersburg, for a while going thence to his estates in Volhynia. In 1805 he was given command of the First Army Corp. He gained a signal victory, on 18 and 19 November over Marshal Mortier at Dürrenstein, and commanded, under Tsar Alexander I, on 2 Dec. 1805, the allied armies in the battle of Austerlitz, where he was wounded for the third time. From 1806–11 he was governor-general at Kiev, then at Vilna, to become (1811) commander-in-chief in the Russo-Turkish War, for which he was created a prince. After the Peace of Bucharest (May 1812) he succeeded Barclay de Tolly as commander-in-chief in the army against Napoleon I. He fought the bloody battle of Borodino (7 Sept. 1812) and became field-marshal. He was granted the title Smolensky for his victory over Davout and Ney at Smolensk. Calling on all Europe by proclamation he carried on the campaign but died early at Bunzlau, where a monument was erected in his memory, as also at Saint Petersburg. Consult Buchholz, Friedrich von, 'Der Feldmarschal, Fürst Kutusov Smolenskoi' in *Geschichte der europäischen Staaten* (Berlin 1814); Schnitzler, J. H. 'La Russie 1812: Rostoptchine et Koutousof' (Paris 1863).

KÜTZING, kü'tsĭng, **Friedrich Traugott,** German botanist: b. Ritteburg, near Artern, 8 Dec. 1807; d. Nordhausen, 9 Sept. 1893. He studied natural science at Halle, was appointed (1838) teacher of natural science at the high school at Nordhausen, retiring in 1883. He wrote and studied on the algæ species specially, establishing a new epoch in the knowledge of the subject. Among his most important works are 'Species Algarum' (Leipzig 1849); 'Algæ aquæ dulcis' (Halle 1833–36), containing dried specimens; 'Grundzüge der philosophischen Botanik' (Leipzig 1851–52), in which he fought against the theory of stability of the species and advocated spontaneous generation.

KUTZTOWN, koots'toun, Pa., borough in Berks County, on the Philadelphia and Reading Railroad, 18 miles northeast of Reading. There is a normal school here and manufactures of flour, leather, shoes, hosiery, shirts, silk goods and iron foundries and marble and granite works. The electric-lighting plant is the property of the borough. Pop. 2,360.

KUYP, Albert. See CUYP, ALBERT.

KUYPER, koi'pĕr, **Abraham,** ex-Premier of the Netherlands, exponent of Calvinism, especially in its relation to art, literature and democracy: b. 29 Oct. 1837, at Maasluis. He was educated in Leyden, where he received the degree of doctor of theology. He held pastorates at Beesd, Utrecht and Amsterdam (1867–74). He was the chief founder of the Free University of Amsterdam (1880), now aided by the state, and has been for over 30 years leader of the Anti-Revolutionary party

and editor-in-chief of *De Standaard* (the *Standard*). Among Dutch folks all over the world, especially in the Western States, he is reckoned not only a theologician, philosopher and statesman of great ability, but as standing in the front rank of writers of pure and forcible Dutch. He has tens of thousands of admirers in America, who read his writings, which include incisive editorials, an 'Encyclopædia of Theology' and various essays of general literary interest, such as 'Calvinism and Art' (1893); 'Pantheism' (1893), and 'Calvinism: The Origin and Safeguard of our Constitutional Liberties' (1895). He was Premier of the kingdom during the Boer War. In 1891 he visited the United States and delivered the Stone lectures at Princeton. Rev. J. Hendrick de Vries has translated into English some of Dr. Kuyper's best books and essays. His daughter Henriette, noted as an authoress, wrote (in Dutch), 'Six Months in the Homes of Eastern America'; 'Vacations in England'; 'A Visit to Russia,' and 'Henry Hudson, in Dutch Service' (1909) and has written her experiences as a nurse during the World War of 1914–18.

KVIČALA, kvē-chä'lą, **Jan,** Bohemian classical scholar and politician: b. Münchengrätz, 6 May 1834; d. 1908. He studied in Prague and Bonn and became (1867) adjunct-professor of classical philology at the Prague University. He wrote 'Beiträge zur Kritik und Erklärung des Sophokles' (Vienna 1864–69); 'Vergilstudien' (Prague 1878); 'Studien zu Euripides' (Vienna 1879); 'Neue Beiträge der Æneis' (Prague 1881), etc. As a politician of the Old-Czech party he was elected (1880–83) to the Reichsrat and from 1881 he was a member of the Bohemian Chamber of Deputies in which capacity he put through a bill compelling the erection in Bohemia of special schools for Czech children (the *lex* Kvičala). In the Reichsrat he took a leading part in creating the law for the separation of the Prague University into Czech and German divisions, taking an instructor's position in the former.

KWALHIOKWA, kwäl-hē-ō'kwä, a tribe of Athabascan Indians, formerly living on Willopah River, Washington, near the Lower Chinook Indians. They are frequently confounded with the Owilapsh or Whilpah.

KWANGSI, kwäng'sē, China, a province in the southern kingdom, bordered by Kwangtung on the east and southeast, by Tungking on the southwest, Yünnan on the west and by Kweichou and Hunan on the north. It has an area of 77,200 square miles. The greater part of the section is composed of Mesozoic red sandstone forming a basin; the easterly and southerly portions of the province are mountainous. The almost unnavigable Si-kiang River and its tributaries water the province, whose chief products are rice, maize, aniseed, cinnamon, sugar, tea, indigo, lumber, etc. Its industries consist of silk and cotton textiles; mining scarcely exists. It is China's poorest province, and is the place of refuge for robber bands. Its capital city, Kweilin, is in the northeast of the province. The harbor of Wuchou has important foreign commerce; of importance also are Nanning on the Yanking, and Lungchou on the Tonking border. It is in this province that such insurrections as the Taiping and others have arisen.

KWANZA, kwän'zą, or **COANZA,** kō-ăn'zą, Portuguese West Africa, a large river rising in Lake Mussombo, it flows at first in a northeasterly direction, then north, and finally in a westerly and northwesterly course, and enters the Atlantic Ocean near lat. 9° 10′ S., not far south of Saint Paul de Loanda. In the lower part of its course there are many falls, the last being the Livingstone or Kambambe Falls, below which for a distance of about 160 miles the river is navigable for small steamers. Its total length is about 700 miles.

KWEICHOU, or **KUEICHOU,** China, a southwestern province bounded by the provinces Yünnan on the west, Kwangsi on the south, Hunan on the east and Szétchwan on the north. It is largely a mountainous region and fertile only in small stretches of the valley of the Wukiang River which runs into the Yangtse-kiang. There is therefore little agriculture but more cattle breeding; its horses being considered the best in China. Its richness in minerals is important; copper for all the Chinese coinage is mined here; also quicksilver is becoming an important product. The country is very much denuded of inhabitants since the war of annihilation (starting 1848) of the Chinese against the mountain tribes known as Miaotse. Its exports are paper and raw silk stuffs and salt is its chief import. The capital is Kweiyang, and other large towns are Tsuni in the north, Singi in the south and Tchun-yuēn on the Yuēnkiang River. The population is about 9,265,000 according to the Chinese census.

KYABUCCA, a beautifully mottled wood found principally in Guinea, Moluccas, and to some extent in India. It is made use of in the manufacture of fancy furniture, caskets and tobacco and snuff boxes. See KIABOCCA.

KYANIZING, kī'ăn-īz'ĭng, a process for preserving timber, cordage, etc., from the effects of dry-rot named from an inventor of the name of Kyan. It consists in immersing the material to be preserved in a solution of corrosive sublimate and water, in the proportion of one pound of the former to from 10 to 15 gallons of the latter, according to the strength required. The time during which timber must be allowed to remain in the solution depends upon its size and thickness. For boards and small timbers 24 hours are required for each inch of thickness. This process is now almost entirely disused, as wood is much better preserved by being saturated with creosote or coal-tar.

KYD, Thomas, English dramatist: b. London, about 5 Nov. 1558; d. December 1594. While one of the most important of the precursors of Shakespeare, Kyd's very name was scarcely known until the closing years of the 19th century. In 1773 Thomas Hawkins discovered his name in connection with The Spanish Tragedy in Heywood's 'Apologie for Actors.' Much concerning his troubled career has been unearthed by scholars within the last quarter-century. Kyd was entered at the Merchant Taylors' School late in 1565, where Edmund Spenser was his school-fellow. Kyd received no university training but after leaving the school above mentioned he entered his

father's profession of scrivener. He was greatly influenced by Seneca and Lyly. As far as known at present Kyd brought out his 'The Spanish Tragedie containing the Lamentable End of Don Horatio and Bel-imperia; with the Pitiful Death of Old Hieronimo' in the period between 1584 and 1589. For over 60 years 'The Spanish Tragedy' was the most successful play on the English stage and long retained its great popularity. A prologue was added in 1592 entitled 'The First Part of Jeronimo, or The Warres of Portugal' (first printed in 1605). It is now believed on good ground that Kyd was the author of the original draft of the tragedy of Hamlet, Prince of Denmark, which was drawn upon extensively by Shakespeare. Another work of Kyd, 'Soliman and Perseda' appears to have been written about 1588. In 1590 or thereabouts Kyd abandoned his career of playwright and entered the service of a lord who kept a troop of players. Boas thinks this lord was Robert Radcliffe, 5th earl of Sussex. Kyd dedicated his translation of Garnier's 'Cornelia' to the Countess in 1594. Other works of Kyd are 'The Householder's Philosophy' a translation from Tasso, and 'The Most Wicked and Secret Murdering of John Brewer, Goldsmith' (1592). Other works are lost with the exception of fragments. When Marlowe was arrested in 1593 for his "lewd libels," some of Kyd's papers were found among his effects and the latter was also arrested. When papers at his house were examined there was discovered one of "vile heretical conceits denying the deity of Jesus Christ." Kyd was tortured at Bridewell, but maintained his innocence and blamed Marlowe for his predicament. Released after a time, he was abandoned by his patron and died in destitute circumstances. Kyd's importance in the literature of his period lies not in any inherent excellencies of his verse but rather in the fact that he was a pioneer who exerted a marked influence on Ben Jonson, Fletcher and Shakespeare. Consult the collected edition of Kyd's works with biography edited by F. S. Boas (Oxford 1901); Manly, J. M., 'Specimens of Pre-Shakespearean Drama' (Vol. II, Boston 1897); edition of 'The Spanish Tragedy' by Schick (in 'Temple Dramatists,' 1898); Sarrozin, 'Thomas Kyd und sein Kreis' (Berlin 1882); Ward, 'History of English Dramatic Literature' (Vol. II, London 1881).

KYMRY. See CYMRI.

KYNETT, kī'nĕt, **Alpha Jefferson,** American clergyman: b. on the site of the battle of Gettysburg, Pa., 12 Aug. 1829; d. Harrisburg, Pa., 23 Feb. 1899. His people moved to Iowa in 1842. He was a self-educated man and taught for sometime in the public schools. In 1852 he entered the ministry of the Methodist Episcopal Church, uniting with the Iowa Conference, becoming a charter member of the Upper Iowa Conference in 1856. After 12 years in the pastorate he became secretary of the Church Extension Society of the Methodist Episcopal Church in Philadelphia in 1866 and served until his death. It was through his influence that the society was organized in 1864. Its headquarters were located in Philadelphia. He was a member of eight General Conferences, beginning with 1864. During the Civil War he was on the staff of Governor Kirkwood and was active in recruiting several regiments as well as in the Sanitary and Christian commissions. Under his management the Church Extension Society aided over 11,000 churches to erect edifices to the extent of nearly $6,500,000, which was mostly raised by church collections.

KYRIE ELEISON, kĭr'ĭ-ā ā-lā'ĭ-sŏn (from the Greek *Kyrie eleēson,* "Lord, have mercy"), an invocation following the Introit of the Mass. It is almost the only part of the liturgy in which the Roman Catholic Church has retained the use of Greek words. Just after the Introit the priest celebrating the Mass and the servers repeat alternately three times "Kyrie eleison," and then as many times in the same manner "Christe eleison," and so on alternately. When it is sung the leading singer takes the part of the priest, and the choir that of the servers. The introduction of the Kyrie into the Mass is attributed to Pope Sylvester I, in the beginning of the 4th century.

L

L the twelfth letter of the English and most of the other modern European languages. Its definitive form in the Greek alphabet is Λ, but in very early Grecian, Hebrew and Phœnician monuments it has the form ⅄ or ㄴ. Its name in Hebrew and Phœnician is lamed and in Greek lambda, in Arabic lam.

The sound of l is produced when the tip of the tongue is brought into contact with the palate behind the upper front teeth, and, with the jaws apart, the breath is emitted. The sound of r is produced in nearly the same way, but in sounding the r the tongue is not in contact with the palate and may vibrate. Thus these two letters represent sounds that are much alike. But there are nations that cannot sound the r, as the Chinese and sundry other races; these substitute l for r: the technical name for this vice of utterance is lambdacism; the opposite vice is an inability to pronounce l, for which r is substituted, as by the Japanese. In languages whose syllabaries admit both these sounds the two letters are freely interchanged or confounded. In languages belonging to one common family, the Aryan, for example, a word which in one language has r, in another has l, and vice-versa; examples: Lat. *prunus*, Eng. plum; Lat. *ulmus* (elm), Fr. *orme*. The like is seen in the formation of derivatives within one language. Thus in Latin the adjective termination *alis* (Eng. al, as in liberal) is changed to *aris* when the word has already an l; for example: from *peculium* comes *peculiaris*, from *auxilium*, *auxiliaris*, and vice-versa, r for a like reason is changed to l: thus from *per* and *lucidus* comes *pellucidus*, from *inter* and *lectus*, *intellectus*. L is also substituted in one language for n in another; for example: Gr. *pneumon* (lung), Lat. *pulmo*. Or d and l are interchanged: Gr. *Odysseus*, Lat. *Ulysses;* the like is seen in the two Latin words *odor* and *olor;* and the Latin *lingua* was once written *dingua*, allied to Eng. tongue and Ger. *zunge*.

In Italian the l of Latin words is often changed to i: Lat. *planus*, *plumbum* (lead), Ital. *Piano*, *piombo*.

In English l is often silent: palm, calm. In French *al* becomes *au; à le* becomes *au*, *cheval* (horse) plu. *chevaux;* and the English auburn is from Latin *alburnus*. In English and most of the other languages l, whether single or double, has one sound-value only, the same which it has in pale, pallid; but in French sometimes ll has a sound resembling that of lli in million, and like y in meilleur; in Spanish ll may commence a word, for example: *llana* (wool), and is classed as a distinct alphabetic character: its sound-value is the same as that of ll in French. In Welsh, on the other hand, ll has a most peculiar, indescribable sound, partly l and partly a sibilant sh.

L. E. L., the *nom-de-plume* initials of an English novelist, Letitia Elizabeth Landon (q.v.), later Mrs. Maclean.

L'ABBÉ CONSTANTIN, là-bā kôn'stawn-tăn, the best of Halévy's works of fiction, has enjoyed an immense popularity in France and abroad. Published as a serial in the *Revue des Deux Mondes* in 1887, it did much to bring about the author's election to the French Academy two years later. The number of editions has run into the hundreds and the book is widely used as a text in the classroom. This unusual success is due largely to its sound moral tone and the worthy attitude toward the problems of life on the part of the principal characters. From the old country priest whose life has been one of self-sacrifice and charitable deeds, to the young American heiress who finally offers to marry the priest's godson, a modest artillery officer, all the characters show the same sense of honor combined with unaffected virtue and sincerity of purpose. A touch of exotism due to the introduction of American characters and a lesson in patriotism drawn from events of the Franco-Prussian War, contributed in no small way to the great favor with which the book was received by the French public. Besides, it is written in a charmingly simple almost conversational style, admirably suited to the characters. The book contains a number of dramatic situations, and a play based upon it has been almost as popular as the novel itself. Many editions in the original French and in translations have been published.

LOUIS A. LOISEAUX.

'L'AIGLON,' lā'glôn. Edmond Rostand, having gained world-wide fame in 1897 by his romantic fantasy, 'Cyrano de Bergerac,' endeavored to confirm that success in 'L'Aiglon,' or 'The Eaglet,' produced three years later by Sarah Bernhardt in France and by Maude Adams in America. The play is less charming and spontaneous than its predecessor, but more fully grounded on history, more ambitious as a study of character, and more elaborate as a spectacle. Napoleon's son, the Duke of Reichstadt, known as «The Eaglet,» is kept under the watchful eye of Metternich at the Austrian court. But he is the hope of a Bonapartist plot, and though physically unfit to rule, and encompassed by enemies who will prevent his escape to France, he yearns to emulate his great father. His inheritance descends from the decadent Austrian house, however, rather than from the all-conquering Corsican. His environment, too, determines his fate; and after forfeiting his one opportunity to evade the relentless Metternich,

he recognizes his weakness. In his vision before dawn upon the battlefield of Wagram, he perceives that, in a sense, he must atone by his sufferings for all the blood that has been spilt to win his father's glory. He accepts his destiny, a passive hero to the last, and dies a theatric death, lying beside his cradle, in the presence of the weeping Austrian court.

The six acts of the play present a few major characters, a host of those that merely come and go, and several striking scenes. Flambeau, the old grenadier of Napoleon, is the most alluring figure. Surprises and coincidences abound, and the atmosphere of the piece is distinctly romantic, although its careful detail and its central conception are almost naturalistic. Rostand's poetic imagination is sufficient to the task of making real here much that might otherwise seem mechanical melodrama. 'L'Aiglon' has been translated into English by Louis N. Parker (1900).

FRANK W. CHANDLER.

L'ALLEGRO, lą-lā'grō. 'L'Allegro' and 'Il Penseroso' (q.v.) are companion poems by Milton. They are assigned to the period (1632–38) after his life at Cambridge, in which he retired to his father's house at Horton, Buckinghamshire, for study and reflection. That is, they were written about the same time as 'Comus' and 'Lycidas,' just before Milton's travels and some time before his prose writings and most of his sonnets and his greater poems. They are really poetic exercises; the young poet expresses his thoughts on life in the forms common in the literary poetry of the day. The two poems are companion pieces; 'L'Allegro' gives the gay or cheerful mood or humor, while 'Il Penseroso' gives the contemplative mood. They give their ideas in much the same way: each begins by driving away the mood opposed to the subject of the poem; in 'L'Allegro' it is "loathed Melancholy." Each goes on with an invocation, as one may say, to the goddess of the mood; "Thou Goddess fair and free, in Heaven yclept Euphrosyne, and by men heart-easing Mirth." The main part of each poem, however, presents the mood of the poet by describing a characteristic day; in 'L'Allegro' the poet is waked by the lark, hears the huntsman on the hill and the plowman nearer by, takes a country walk and joins the youths and maidens of the upland hamlets in their merry-making, he goes home and spends the evening in reading and music, or, according to another intepretation, he goes to town and enjoys the gay life of society. The poem is to the average mind old-fashioned and formal; it is classic in form and allusion and has little in it that seems inspired by deep poetic feeling. But on the other hand each word and phrase is so full of meaning and so characteristic of the poetic mood that it makes a definite place in the mind of every lover of poetry. Some other general considerations are noted under 'Il Penseroso.' There are a good many editions of Milton's Minor Poems, mostly made for school purposes. The first volume of Masson's edition of Milton or Verity's edition of the Minor Poems may be especially noted.

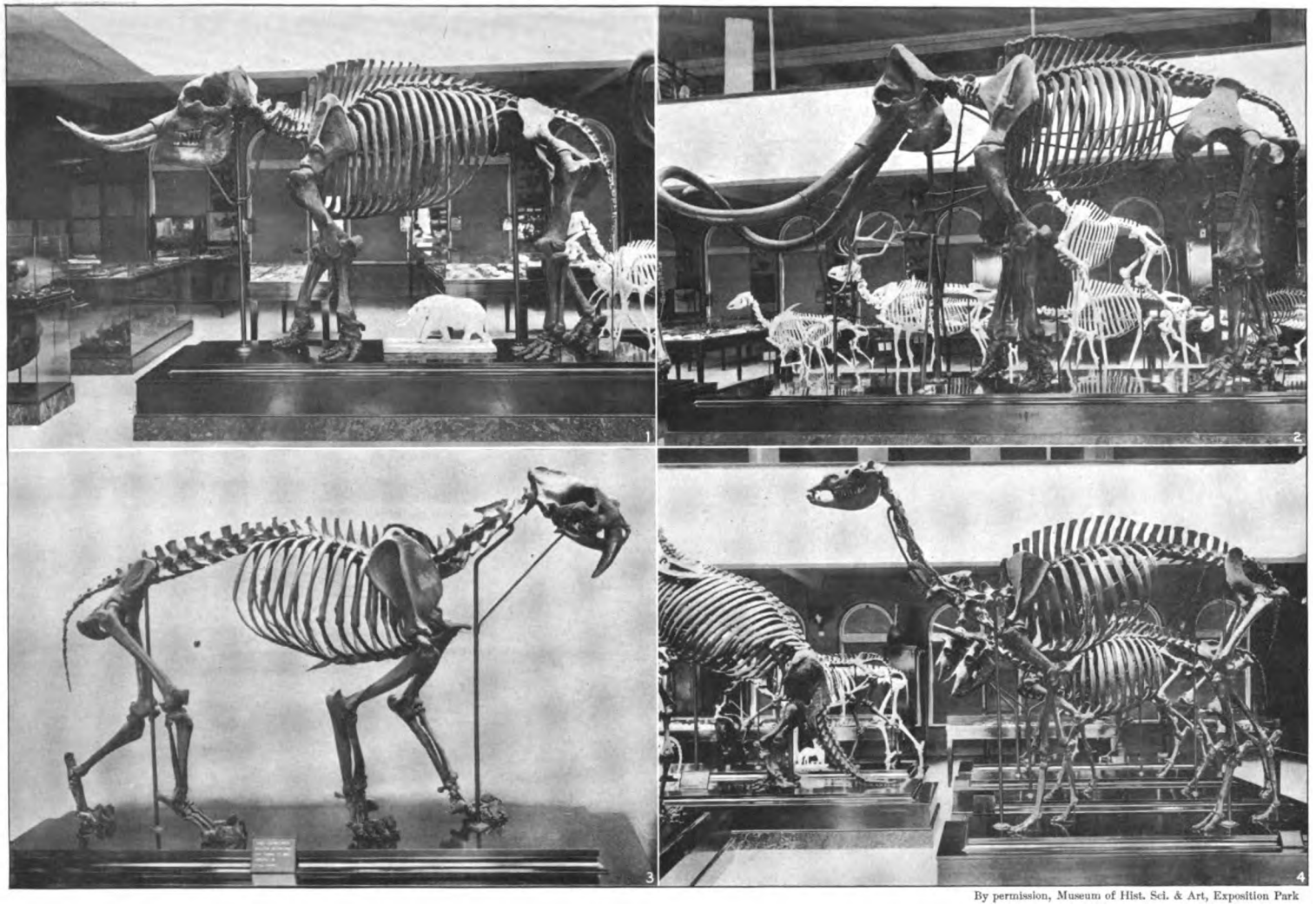
EDWARD E. HALE.

L'AMI FRITZ, lą'mē frĭts ('Friend Fritz'), published in 1864, formed for Erckmann-Chatrian a restful interlude between two stirring patriotic novels, 'Le Conscrit de 1813' (1864) and 'Waterloo' (1865). Indirectly it is like them a plea for quiet living, toleration, peace and concord between nations and between religious confessions as well. The scene, significantly for one writing in the year of the Austro-Prussian attack on Denmark for Schleswig-Holstein, is laid in an idealized Bavarian Highlands. The time is about 1850. The theme is an epicurean idyl, the unobtruded moral that the shortest road to a middle-aged bachelor's heart is by way of his stomach. Seldom have the joys of eating and drinking been so affectionately dwelt upon in fiction. As the story opens, Fritz Kobus, a well-to-do bachelor of 36, rejoicing in his freedom, jests at the matrimonial counsels of his father's friend, the genial old Rabbi Sichel, a matchmaker by instinct and predilection. How in the next two years Fritz comes, step by step, and unconsciously almost to the last, under the spell of Suzel, the ingenious, charming and housewifely young daughter of his anabaptist tenant farmer Christel, is told with rare quiet humor and genial irony. With modifications, natural after the Franco-Prussian War of 1870, 'L'ami Fritz' was dramatized by its authors in 1876. The play was very popular and has been translated as 'Friend Fritz.'

BENJAMIN W. WELLS.

L'ASSOMPTION, lą'sŏń'syŏń', Canada, village and capital of L'Assomption County, Quebec, 23 miles northeast of Montreal, on the Canada Northern Railroad. L'Assomption College is located there and the village is also the site of a Roman Catholic convent and hospital. It has several manufacturing industries. Pop. 1,747.

LA BALLERINA, lą bāl'lĕr'ĭną ('The Ballet Dancer'). This short realistic novel, by Matilde Serao, which first appeared in the *Nuova Antologia* (No. 165, 1899), and then in the form of a novel (Catania, 2 vols., 1899) portrays the trials of a poor young Neapolitan girl, Carmela Menino, in her efforts to earn a livelihood in the rank and file of the ballet dancers employed at the San Carlo Theatre in Naples and at other resorts in the vicinity. The interest of the romance centres in the description of the sinister conditions that prevail rather than in the characters themselves, which are of secondary importance and whose sensuality and material needs furnish the dominating motive of their every action. In the case of the heroine of the novel, Carmela Menino, however, it is not sensuality, but a kind of religious sentimentality, together with her poverty, which is the mainspring of her conduct in life. This sentimentality is the cause of her fetich worship for her godmother, the ballet artist, Amina Boschetti, and of her loyalty to the memory of the latter years after her death. It also figures prominently at the end of the novel in the night watch of Carmela Menino at the bedside of the prodigal suicide, Count Ferdinando Terzi di Torregrande. The entire descriptive material is characterized by that vividness and realism displayed in the best of the author's earlier books: 'Il paese di Cuccagna,' 1891 ('The Land of Cockaigne'), showing those keen powers of observation which have placed Matilde Serao



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EXTINCT GIANTS PRESERVED IN THE ASPHALT LAKE, LA BREA RANCHO, LOS ANGELES, CAL.

1 Mastodon **2 Imperial Elephant** **3 Sabre-tooth Tiger** **4 Camel**

in the front rank of the contemporary writers of fiction in Italy. Among the salient features clearly drawn in 'La Ballerina,' three stand out conspicuously: (1) The rottenness of the entire ballet system as carried on in Naples. So vivid and effective is the description of the ballet conditions, analagous to that of the lottery system in 'Il paese di Cuccagna,' as to create a strong impulse on the part of the reader never to lose an opportunity, if ever one be presented, of doing his best to purge the entire system. (2) The very important rôle that sentimentality plays in the life of the Neapolitan youth of both sexes, nullifying the possible advantages which the use of ordinary common sense would, in all likelihood, provide. The well-nigh uncontrollable desire of the youth of Naples to pose continually as millionaires is exposed so forcefully as to bring out strikingly the absurdity of creating so false a situation. (3) The distinction between the feeling of reverence, akin to love, as seen in Carmela Menino's life, and the varied and multitudinous congeners of love as seen in the lives of the sensual ballet personnel of which Carmela Menino is one of the links. The inane relations between the ballet dancers and their sentimental lovers contrast rudely with the sincere sentimental loyalty and worship, not, however, very well accounted for by the author, shown by Carmela Menino toward the victim of the suicide with which the romance ends, thus producing a strong revulsion from the false pleasures of life. Together with 'Addio amore' ('Good-bye Love') and 'Dopo il perdono' ('After the Pardon'), 'La ballerina' is among the best of the author's later novels. A translation of it was published in England without the translator's name, and issued in London 1901. JAMES GEDDES, JR.

LA BARCA, lä bär'kä, Mexico, town in the state of Jalisco, east of Lake Chapala, and 60 miles southeast of Guadalajara, on the International Railroad between that city and Mexico. The town was founded in 1529 by Nuño de Guzman, and during the Mexican war for independence the town was the scene of two serious battles. Pop. 7,437.

LA BARRACA, lä bär-räk'ą ('The Farmhouse'), a novel by Vincente Blasco Ibáñez (q.v.). In 'La Barraca,' the agrarian problem as existing in the territory about Valencia engages the attention. First published in 1898, this work soon made its way into French and, appearing as 'Terres maudites' in the *Revue de Paris* in 1901, it established the author's fame abroad and brought him more note at home. With a sure eye and a firm hand, Blasco Ibáñez has outlined for us, on the background of the *huerta* or suburban district of Valencia, types of character such as Pimentó, the local bully, and Batiste, the industrious small farmer. Batiste has the misfortune to take up a farm from which the avaricious landlord had evicted the previous tenant and upon the occupancy of which the people of the *huerta* had put a ban. The result is the boycotting and ruthless persecution of Batiste by the *huerta* under the leadership of the worthless bravo, Pimentó, the killing of Pimentó by Batiste in defense of his own life, and the burning of Batiste's farmhouse by his neighbors. In the face of a systematic boycott the honest, home-providing Batiste has no redress, and he must depart sadly to try his fortunes elsewhere.
JEREMIAH D. M. FORD.

LA BARRE, lä bär', **Antoine Joseph Lefèvre de**, French sailor: b. about the beginning of the 17th century; d. 4 May 1688. He rose to early prominence as an officer of the French navy, and was appointed governor of Guiana in 1663. He was successful in recapturing Cayenne (1667), which had been occupied by the Dutch. On being commissioned lieutenant-general he sailed for the West Indies, and, in a fight with the English in the Antilles, compelled them to raise the blockade of Saint Christopher. Succeeding Frontenac as governor of Canada in 1682, his irresolution in his negotiations with the Indians was so disastrous that he was recalled in 1685. He obstructed La Salle in his western explorations.

LA BREA, Los Angeles, Cal., a park, west of and within the city limits, on an almost level area bordered by the Santa Mornica Range to the north. It is famous as the site of the "La Brea Tar Swamp," a prehistoric petroleum "trap" which has contributed to paleo-zoology the most extraordinary remains of extinct animals ever discovered. Major Hancock, then owner of the ranch on which the pool was located, as early as 1875, was presumably the first person to take particular notice of the bones in the asphalt, William Denton in that year mentioning a canine of the large sabre-tooth tiger received from him. After the definite discovery of the historical value of the deposits in 1906, excavation work was carried on by the University of California, and within a space of about 1,400 feet long, northwest by southeast, and 150 feet wide, thousands of skeletons were discovered, many hitherto unknown to science. Pools of water and tar still are characteristic features of this section of California, and in the Pleistocene period were natural drinking places for many kinds of herbivorous animals and for the carnivorous types which preyed upon them. Both in their struggles became trapped in the treacherous tar seep or pool, which has been an excellent preservative of their skeletons. The remains of mammals and birds of extinct type determined thus far in the university collection include 630 sabre-tooth tigers; over 700 "big wolves"; 7 mastodons; 39 giant ground sloths; 39 bison; 39 horses; 39 camels; 17 elephants (including the skeleton of the first "Imperial" elephant found), besides skeletons of the great American lion; the gigantic teratornis, with a 14 foot wing spread; California peacock and a vast number of minor specimens. In 1914 a human skull, possibly several thousand years old, was recovered from the pit. Fifteen mounted examples of the most important of these remarkable prehistoric animals and a great quantity of unmounted specimens are exhibited in the Museum of History, Science and Art in Los Angeles. Mrs. Ida Hancock, the owner of the property, donated 32 acres of the land enclosing the pool to Los Angeles County, which now maintains a park and subsidiary museum around this interesting "death-trap." Consult Merriam, J. C., 'A Death-trap which antedates Adam and Eve' (in *Harper's Weekly*, 18 Dec. 1909).

LA BRUYÈRE, lä brü-yär, **Jean de**, French moralist: b. Paris, 17 Aug. 1645; d.

Versailles, 10 May 1696. He was educated for the law, became treasurer at Caen, and through the influence of Bossuet was employed in the education of the Duke of Bourbon, grandson of the great Condé, with a pension of 3,000 livres, and was attached to his person during the remainder of his life. In 1688 he published the 'Characters of Theophrastus,' translated into French, to which he added others of his own, in which he represented the manners of his time with great accuracy, and in a style epigrammatical, ingenious and witty. The work contained 386 "characters"; the 4th edition (1689), 340 additional ones, while the 9th, in press at the time of the author's death, included over 1,100 "characters." Consult Rahstede, 'La Bruyère und seine Charaktere' (1886); Allaire, 'La Bruyère dans la maison de Condé' (1886); Pellisson, 'La Bruyère' (1893). See CHARACTERS OF THEOPHRASTUS.

LA CALPRENÈDE, lä käl'prĕ'nād, **Gautier de Costes de,** French novelist: b. Sarlat, Dordogne, 1610; d. 1663. He went (1632) to Paris and entered the guards' regiment as officer, becoming royal chamberlain. His chivalry novels, copying the style of 'Amadis,' brought him fame, especially his 'Cléopâtre,' extending into 12 volumes (1647–58). He selected names from the period of Augustus as a framework in which to describe persons of his own day, the subtlety and stale sentimentality of the work finding favor. The characters, however, are, for the most part, well drawn and some scenes are excellent. Notable among the novels are 'Cassandre' and other works in 10 volumes (1642–50); 'Faramond' and others in seven volumes (1661–70); 'Les nouvelles, ou les divertissements de la princesse Alcidiane' (1661). He also wrote a number of plays, most notable being 'La Mort de Mithridate' (1637); 'Le Comte d'Essex' (1639); 'Edouard, roi d'Angleterre' (1640). Consult Körting, 'Geschichte des französischen Romans im XVII ten Jahrhundert' (Vol. I, Oppeln 1891); Hill, H. W., 'La Calprenède's Romances and the Restoration Drama' (Chicago 1911).

LA CHALOTAIS, lą sha'lō'tā, **Louis René de Caradeuc de,** French magistrate: b. Rennes, 6 March 1701; d. Rennes, 12 July 1785. He was a procureur-général of the Parliament of Brittany and one of the most ardent adversaries of the Jesuits in the reign of Louis XV. His notes under title of 'Compte rendu des constitution des jésuites,' placed before the Brittany government (1761) led to the abolition of the order from France. He next hoped to reorganize public education and wrote 'Essai d'éducation nationale' (Geneva 1763, Paris 1825), a remarkable treatise and translated into several languages, which was highly eulogized by Voltaire. The enmity of the Duke d'Aiguillon and others brought false persecution against him successfully and he was arrested in 1765 and imprisoned. Failing to bring about a fair trial after several attempts his friends demanded justice and Louis XVI placed him back in his former parliamentary position at Rennes in 1775. Consult Robidou, 'La Chalotais et les jésuites' (Rennes 1879); 'La Chalotais et le duc d'Aiguillon,' (published by Henri Carré, Paris 1893), from 'Chevalier de Foulette's Correspondence.'

LA CHARTREUSE DE PARME, lä zhär'trüz dē parm'. 'La Chartreuse de Parme,' esteemed the best of the novels of Stendhal (Henri Beyle), was written in 1830, though not published till 1839. In time it belongs to the first flush of the Romantic movement, and it has highly romantic passages, but there are others which seem clearly to foreshadow the naturalistic and the psychological schools of fiction. Some descriptive passages are of rare brilliancy. The story, opening in 1796, passes rapidly to the decade following Waterloo. The scene is chiefly in Milan or Parma; the plot, ingenious but over-tortuous, deals with the intrigues of a petty Italian court; the interest, whether for author or reader, is almost wholly in character. Though crude in coloring and melodramatic in treatment the novel seems the first serious attempt in French fiction to exhibit not merely foreign scenes but foreign ideals and psychic life. Fabrice, the hero, his military career closed by the fall of Napoleon, turns his ambition, though not his heart, to the Church, and after adventures that show him, in Sainte-Beuve's phrase, "like an animal given over to his appetites or like a wanton child who follows his caprices," not, indeed, without shrewdness, dies an archbishop in a Carthusian monastery, whence the story's title. The heroine, Duchess Sanseverina, beautiful, witty and loving Fabrice, her nephew, with the desperation of a last passion, murders, marries and forgets her marriage vows in his behalf, reincarnating the intense passions of some familiar female figures of the Italian renaissance. Count Mosca, to Balzac a glorified Metternich, is for us a diplomatic courtier, ingeniously unscrupulous in reconciling the duties of his station with the demands of his lusts. Palla, a political outlaw and highwayman, the philandering agent of the duchess' criminal designs, is an interesting age-fellow of Hugo's Hernani. All four illustrate as many phases of Stendhal's conception of the unreasoning fatality of love.

BENJAMIN W. WELLS.

LA CHAUSSÉE, lä shō-sā, **Pierre Claude Nivelle de,** French dramatist, founder of the so-called "pathetic comedy" or melodrama: b. Paris, 1692; d. there, 14 March 1754. 'Le Préjugé à la Mode' (1735) by him was the first French pathetic comedy. Of 18 dramas by him, among the best are 'School of Friendship' (1737); 'Melanide' (1741); 'Love for Love' (1742); 'Pamela' (1743); 'School of Mothers' (1745); 'The Governess' (1747). His plays were all written in verse and followed strictly the rules of the classic drama.

LA CITTÀ MORTA ('The City of the Dead'), a modern tragedy in five acts and in prose, by Gabriele d'Annunzio, performed for the first time in Paris at the Renaissance Theatre, 21 Jan. 1898. Although every effort was made to expose to the best advantage the artistic possibilities of the tragedy, Sara Bernhardt playing the part of the blind Anna with all her rare skill and intelligence, the play was not a success. It has been played in England and in America, but received rather coldly, and for several reasons, one of which may be said to be its lack of dramatic action; for it is more a lyric poem in dialogue, or a succession of descriptions artistically composed, than a drama as ordinarily understood.

The scene is laid in Argolis, near the ruins of Mycenæ. The *dramatis personæ* consist of five characters; an archæologist of a most fervent type, Leonardo; his sister, Bianca, Maria, a young woman, endowed with exuberant health and beauty and possessing rare personal charm, who accompanies the archæologist and shares his keen interest in his excavations and discoveries; Alessandro, a poet and scholar, ever inspiring and helping Leonardo in all he undertakes; Anna, the wife of Alessandro, who is blind although not from her birth. This misfortune gives Anna's mental vision a sensitiveness and acuteness which makes up in no small degree for her loss of sight; lastly, a nurse, an attendant of Anna, whose informing rôle suggests somewhat the part filled in a certain measure by the old Greek chorus. As in the plays of Sophocles and Euripides and of Racine's 'Phèdre,' it is fate or destiny that controls the incidents of the tragedy and hangs heavily over the participants. In the air itself, breathed by the archæologist and the poet in their passionate search for the tomb of the house of Atreus, is rank poison emanating from the crimes committed by the Atridæ. So atrocious is the curse over this ill-starred house that, as Alessandro tells his wife (I–4) some direful traces must still remain in the dust trampled by the sons of Atreus. This gives the key to the trend of events.

That a tragedy having the three mainsprings of its action in incest, adultery and fratricide, even with a Greek setting, should be received coolly by Anglo-Saxon audiences is readily understood. That it received such acceptance as it secured is due in a measure to the remarkable acting of Eleonora Duse, who impersonated Anna. The tragedy has been the subject of much diverse criticism. It is better adapted for reading than for representation. However repellent the subject may appear, enwrapped as it is in a sullen and depressing atmosphere, the tragedy itself is unquestionably a highly artistic production. The author not only possesses the inherent qualities ascribed to the Latin and Italian temperament, but the old pagan strain reveals itself in utterly ignoring the conventionalities usually adhered to more or less by writers in general. Moreover, his accurate knowledge, gained on the spot, of ancient history and literature, together with unusual poetical gifts make up a combination producing a result that has rightly attracted the attention of the literary world. Revolting as may be his remorseless brutality, especially to the non-Latin temperament, it is impossible not to recognize an artist exceptionally gifted and a literary production quite out of the ordinary. A translation of 'La città morta,' by G. A. Symons, was published in 1900; another by G. Mantellini (New York 1902). Consult also Muret, Maurice, 'La Littérature italienne d'aujourd 'hui' (pp. 90–105, Paris 1906); Huneker, J., 'Duse and d'Annunzio' (in 'Iconoclasts' (pp. 338–344, New York 1907).

JAMES GEDDES, JR.

LA CONDAMINE, là-kôṅ-dä-mēn, **Charles Marie de,** French scientist: b. Paris, 28 Jan. 1701; d. there, 4 Feb. 1774. He entered the military profession, but soon renounced this career, and devoted himself to the sciences. In 1736 he was chosen, with Godin and Bouguer, to determine the figure of the earth by measurements to be made in the equatorial regions of South America, and remained abroad for eight years. In 1748 he was elected a Fellow of the Royal Society of London, and in 1760 a member of the Academy of Sciences of Paris. His principal works are his account of his travels (1745), his work on the figures of the earth (1749), and that on the measurement of three degrees of the meridian in the equatorial regions.

LA CONFESSION D'UN ENFANT DU SIÈCLE, la kôṅ'fĕs'syôṅ d'ung'ôṅ'fôn dŭ syăcl' ('Confession of a child of the century') is one of the most characteristic works of Alfred de Musset. It owed not a little of its immediate great success to the fact that, while ostensibly a novel, it was a thinly veiled history of the poet's love affair with George Sand, which she had already begun to use as literary material in her "Lettres d'un voyageur." Written (1835) shortly after that ultra-romantic adventure in ecstacy and torture, it is very generous to the heroine of that experiment and without the bitterness that later marked the references of each of the principals to the other. For the frankness and sincerity of its self-revelation it is a personal document of great interest. But it is more. It is a wonderfully striking expression of that peculiar state of mind, often called "Byronic" in English, so common among the youth of the generation coming after the French Revolution and the Napoleonic wars, and known in France as the "maladie du siècle." Its opening pages contain a famous description of that malady and an analysis of the conditions out of which it grew. So it is a document even more precious for what it tells us of the century than for what it reveals of the child. An English translation by Kendall Warren appeared in a privately printed edition of Alfred de Musset's works (New York 1908).

ARTHUR G. CANFIELD.

LA COSA, la kō'sa, **Juan de,** Spanish navigator: b. about 1460; d. November 1509. He was the companion of Columbus in the discoverer's voyage to Hispaniola in 1493 and settling at Santoña, in Aranham, made his living and reputation as a draughter of charts (1496). He accompanied Ojeda in an expedition to the Pearl coast in 1499; and in 1501 explored the northern coast of South America from Venezuela to Panama. In the course of an expedition on which he accompanied Ojeda, the party on landing in the bay of Cartagena was attacked by Indians, and he perished with his companions, of whom Ojeda alone escaped. His map of the World, beautifully illustrated on vellum, is in possession of the Spanish government, and is the earliest known to include the New World, having been made in 1500.

LA CROIX, la krwä', **Alfred,** French geologist: b. Mâcon (Saone-et-Loire), 4 Feb. 1863. He is director of the laboratory of mineralogy of the School of Higher Studies, Paris. He was head of the scientific expedition sent to Martinique (1902–03) and of numerous other scientific parties, to United States, Canada, Asia Minor, Greece, Italy, Germany and England. He was also head of the Committee on Historical and Scientific Work in 1895, and that charged with the geological map of France in the following year. His published

works include 'Minéralogie et de ses colonies' (1893–1902); 'Les Enclaves des roches volcaniques'; 'La Montagne Pelée et ses éruptions' (1904). He has also contributed very extensively to scientific journals and magazines, especially on the metamorphism of eruptive rocks, volcanic action and causes and mineralogy.

LA CROSSE, lą krŏs', Wis., city and county-seat of La Crosse County, on the Mississippi River and the Chicago, Milwaukee and Saint Paul, the Chicago, Burlington and Quincy, the Chicago and Northwestern and several other railroads, 200 miles northwest of Milwaukee, and 130 miles south of Saint Paul. La Crosse is the centre of the farming, manufacturing and dairying trade of western Wisconsin, southern Minnesota and northern Iowa. There are manufactories of boots and shoes, sashes, doors, blinds, automobile parts, gasoline engines, tents and awnings, plows, agricultural implements, boilers and heavy machinery, extensive carriage works, rubber mills, cracker and knitting factories, etc., large flour mills, pearl button factories, steel and corrugated roofing works, woolen mills, a large tannery, mammoth cooperages, five large breweries, affording a market for 150,000 bushels of barley and 100,000 pounds of hops per annum; extensive cigar manufactories and various other industries. Sand, gravel and limestone are found in the neighborhood. The manufactures are valued at $20,000,000 annually. The city has five banks. La Crosse has a public library, the Washburn, containing 25,000 volumes, two business colleges, a high school, public school buildings and several Catholic and Lutheran parish schools. The city has a fine city hall, a Federal building, a convent, asylum for chronic insane, Saint Francis, the Lutheran, and La Crosse hospitals, opera houses, weather bureau station, four parks, a wagon bridge over the Mississippi, etc. There are numerous church edifices.

La Crosse was first permanently settled in 1841 by Nathan Myrick, John M. Levy and others. It became a village in 1851 and was incorporated as a city in 1856. Under a revised charter of 1891 the government is administered by a mayor, elected every two years, and a council of 20 aldermen, one-half elected biennially. The council appoints the minor officials. The city owns and operates the waterworks, and has electric light and street railroad plants. Pop. 31,367.

LA CROSSE, a Canadian outdoor game played with a ball and a stick of light hickory, bent at the top like a bishop's crozier, from which the game derives its name. It was very popular among the Indians of North America, being sometimes taken part in, according to Catlin, by 800 to 1,000 players, in which tribe was set against tribe, the game lasting for days, broken arms and legs being common among the players, and some even killed. The games were preceded by rigorous training on the part of the contestants. A game of ball, played at Michillimackinac on the king's birthday, 4 June 1763, was by Pontiac made the occasion of an ingenious stratagem by which the garrison was surprised and massacred.

The stick employed in the game is 5 or 6 feet in length. Strings of deerskin are stretched diagonally across the hooked portion of the crosse, forming a network. Only one ball is employed, made of india-rubber, and eight or nine inches in circumference. Posts or poles about six feet high, with a small flag at the top of each, complete the equipment. The players are usually 12 on each side, but their number, as well as the distance of the goals apart, is nearly optional. The object of the game is for one side to drive the ball through their opponents' goal. The ball must not be touched with the hand or foot, but is scooped up from the ground with the bent end of the crosse, on which it is carried horizontally, while the player runs toward one of the goals, dodging his antagonists. The game is played in two halves, of a half-hour's duration. A club was formed at Montreal in 1846; in 1860 it began to attain popularity in Canada, and it was introduced into the United States in the early 70's. The National La Crosse Association of Canada was organized in 1867. Consult Beers, 'La Crosse: the National Game of Canada' (Montreal 1869); Schweisser, 'La Crosse: an Expert's Instruction' (New York 1904).

LA DAME AUX CAMÉLIAS lą dąm ô ka-mā'lyą ('the Lady of the Camellias'). This play by Alexandre Dumas, the Younger, first appeared (1848) as a novel written under stress of debts gathered in accumulating experiences that it in part reflects. The novel was dramatized in 1849, but, owing to the failure of a theatre and curious complications with the censorship, of which a preface gives vivacious account, it was first acted 2 Feb. 1852. Success was immediate and lasting. In manifold adaptations it has been played in many lands and has engaged the talent of many noted actresses. In America it is known in eight editions as 'Camille,' in two as 'The Lady of the Camellias.' It had immediate origin in the life and death at 23 of an acquaintance of the dramatist, Alphonsine Plessis, a Parisian courtesan, once maid on a farm, who died of consumption in 1847. Her unselfish charm was celebrated in a brief funeral address by Théophile Gautier and is commemorated in a much visited monument at the cemetery of Père La Chaise. Dumas' "Lady of the Camellias," Marguerite Gautier, is so drawn by a requited love to Armand Duval that she makes all material sacrifices to live wholly with and for him. His father shows her what this will involve for Armand's career. Then, rising to the height of immolation, she deliberately estranges her lover, sacrificing his esteem and her life to Armand, who learns too late the price of her devotion. The theme of the courtesan redeemed by love is at least as old as Prévost's 'Manon Lescaut' (1731). It had been dramatized by Palissot (1782) and again by Hugo in 'Marion de Lorme.' But 'La Dame aux camélias' marks for the French stage the beginnings of the realistic study of social problems which has since so largely engaged its attention.

BENJAMIN W. WELLS.

LA DEBÂCLE, lą dā'bākl', ('La Debâcle,') (1892), a realistic novel by Emile Zola, tells of the horrors of the Franco-Prussian War of 1870. Nothing more powerful of its kind has been written in France, or perhaps in any other country. Here Zola applies to war that natural-

istic method which he had used with remarkable, if unpleasing, effect in his studies of domestic and social life and which has become celebrated as "Zolaism." In 'La Debâcle' the reader is hurried from disaster to disaster, from horror to horror. He beholds the people of France in the grasp of uncontrollable events, which move and crush as surely and inexorably as a glacier. Of what importance, in the play of these giant social forces, are the lives of Maurice, Jean, Henritte and untold thousands of others? Of what avail are courage and innocence? Justice seems to have disappeared from the face of the earth. Zola's pictures of the defense of the plateau of Illy, culminating in the magnificent but hopeless cavalry charge, and of the horrors of Sedan, are among the most powerful in literature. The effect is heightened by the author's objective treatment, his apparent indifference to the ruin of his country Here the patriot, as Zola certainly was, is subordinate to the artist, as he shows himself to be in this his masterpiece. Whatever th: reader's attitude toward "naturalism," it is doubtful if the naturalistic method could be carried farther than in 'La Debâcle' or applied with more telling effect. And whatever the future fate of "Zolaism," it is probable that this arch example of the method, presenting so graphic a picture of a fateful epoch, is secure of a permanent place in literature.

LA FAMILIA DE ALVAREDA of Fernán Caballero, pseudonym of Cecilia Bohl de Faber, is one of the best-known works of that author. The outline was first sketched in German in 1822 but the book in its present form was not published until 1856. It is one of the first novels of manners in modern Spanish literature and bears the sub-title, "Novel of popular customs." The author states in the preface that the story was taken in its essential details from events narrated to her. The plot centres about the murder of Ventura by his jealous friend, Perico de Alvareda, and the degradation of the latter into bandit and outlaw. The tragedy culminates in the execution of Perico and the death and disintegration of his own family and that of his victim. The tale merely serves as a vehicle for a vivid and picturesque description of Andalusian village life in the early part of the 19th century. Popular legends, traditions, and folksongs are generously interspersed. The author constantly obtrudes her moral both in the narrative itself and in footnotes, and insists that the Spanish peasant can be happy only by clinging to the religious faith and the simple customs of his forefathers. The book is liked by Spaniards because of its didactic and moral note, and is valued by foreigners because it is one of the many human documents of Spanish literature. There is a German translation of this tale. Caballero, much to her annoyance, was claimed as a German because of her father's German origin. There is a good annotated American edition by P. B. Burnet. An account of the author's life and work may be found in the complete edition of her works, Vol. I, in the 'Colección de Escritores Castellanos.'

SAMUEL M. WAXMAN.

LA FARE-ALAIS, lą fär-ą'lā', **Christophe-Valentin,** MARQUIS OF, a provençal poet and one of the forerunners of the Félibrige movement: b. Lacoste (Gard), 1791; d. 1846. He came of a family celebrated in statesmanship, literature and military life, among his ancestors being the famous poet, La Fare, and the no less notable French marshal of the same name. After having studied law at Toulouse he entered the army in 1814, but left it five years later and returned to his native place where he continued to reside and to devote himself to literature. In 1830 he began publishing in *L'Echo d'Alais* his southern dialect poems, which became very popular in the *langue d'oc* country. These poems were published in book form in 1844 under the title, 'Las Castognados,' at Alais. In these poems the music-loving south felt an echo of their own life. Their harmony, their gentle sweetness and their brilliancy at once made La Fare a literary leader among the Provençal people, until then without one in later years. His poems, therefore, did much to further the elevation once more of the *langue d'oc* into a literary tongue.

LA FARGE, lą färj, **Christopher,** American architect: b. Newport, R. I., 5 Jan. 1862. He studied at the Massachusetts Institute of Technology (1880–81), and in the office of H. H. Richardson (q.v.), and in 1884, with G. L. Heins, took charge of the architectural works of his father, John La Farge (q.v.). Since 1886 he has been a member of the firm of Heins & La Farge, whose principal work is the cathedral of Saint John the Divine, New York. Other works that may be named are the Houghton Chapel at Wellesley College; the Roman Catholic chapel at West Point; and Saint Matthew's Church, Washington, D. C., church of the Blessed Sacrament, Providence, R. I.; Saint Paul's Rochester, N. Y.; Roman Catholic cathedral, Seattle, Wash.; all stations of the New York subway. From 1910 to 1915 he was a member of the firm of La Farge and Morris. He is Fellow and director of the American Institute of Architects and an associate of the National Academy since 1910 and past president of the Architectural League of New York.

LA FARGE, John, American artist: b. New York, 31 March 1835; d. 14 Nov. 1910. He was the son of Jean Frédéric de la Farge, French midshipman, who escaped imprisonment at San Domingo, 1806, and eventually settled at Philadelphia. He studied drawing with his grandfather Binsse and went abroad in 1856. He studied for some time under Couture in Paris and later settled down in a lawyer's office in New York. He became much attracted by the Arundel prints of Giotto and formed a deep appreciation of Japanese art. He found a friend and master in William Hunt. He married Margaret Perry, great-granddaughter of Benjamin Franklin, in 1860. He originally developed a taste founded on Japanese liberalism, pre-Raphaelite conventionality and imaginative conventionalism. In 1876–77 he was engaged on the mural decoration of Trinity Church, Boston. He began glass painting and window designing in 1878 and was successful in the manufacture and designing of stained glasses. He was connected with Saint-Gaudens in the erection of the King mausoleum at Newport, R. I. He visited Japan and the islands of the Pacific in 1886. Many water-color

sketches of native life resulted from this trip. One of his greatest works is the large altarpiece in the church of the Ascension, New York (1888). Other noteworthy works are 'Christ and Nicodemus,' Trinity Church, Boston; 'The Muse of Painting,' Metropolitan Museum, New York; 'Coming of the Magi,' church of the Incarnation, New York; among his mural decorations are those in the Brick Church, New York; Paulists' Church, New York; Congregational Church, Newport, R. I.; Minnesota State Capitol, Saint Paul; his glass designs include 'Samuel' in Judson Memorial Church, New York; 'The Philosopher,' Crane Memorial Library, Quincy, Mass.; window in Second Presbyterian Church, Chicago; 'Battle Window,' Memorial Hall, Harvard; 'Paul at Athens,' Columbia University Chapel. In 1869 he became a member of the National Academy; in 1891 was made officer of the Legion of Honor, and was one of the seven original members of the American Academy of Arts and Letters. La Farge was skilful as a colorist, however much we may criticise his inadequate conception and weakness in drawing. He is an important figure in the history of American painting and was a real pioneer in mural painting. He also painted portraits, flowers and landscapes. He contributed frequently to the magazines and published 'Consideration on Painting' (1895); 'Great Masters' (1903); Higher Life in Art' (1910); 'Reminiscences of the South Seas' (1912). Consult Coffin, C. H., 'American Masters of Painting' (New York 1892); Cary, E. L., 'International Studio' (Vol. XXXVIII, ib. 1909); Cortissoz, Royal, 'John La Farge: A Memoir and a Study' (ib. 1911); Isham, Samuel, 'History of American Painting' (ib. 1905); Waern, 'John La Farge: Artist and Writer' (London 1896).

LA FARINA, lą fā-rē'nä, **Giuseppe,** Italian statesman and historian: b. Messina, Sicily, 20 July 1815; d. Turin, 5 Sept. 1863. He studied at the University of Catania; entered the law; implicated in a revolutionary conspiracy, was compelled to flee from Sicily (1837); and finally settled in Florence (1841), where he devoted himself to historical composition. Having returned to Sicily in 1848, he was there successively member of Parliament, and Minister of Education, Public Works and the Interior. After the suppression of the revolution in Sicily (1849), he resided in France and Italy, was secretary of the National Italian Society, and strongly advocated Italian unity. Following the war of 1859, he reorganized the National Italian Society, of which he became president; in 1860 was sent to Sicily to represent Victor Emmanuel; and from 1861 sat for Messina in the Italian Parliament. His chief work is 'Storia d'Italia dal 1815 al 1850' (2d ed., 1860). He wrote other historical studies, such as 'Storia della rivoluzione siciliana nel 1848 e 49' (1851), dramas, and works of fiction.

LA FAYETTE, lä fā-yĕt, **Marie Madeleine Pioche de la Vergne,** COMTESSE DE, French novelist: b. Paris, 16 March 1634; d. there, 25 May 1693. All her life she was in the foremost literary circles, after marriage her house being a noted rendezvous of wits and scholars, including Mme. de Sévigné, La Fontaine and La Rochefoucaulde. Her first novel was 'The Princess de Montpensier' (1660); followed by 'Zaïde' (1670), which among her works ranks next after 'The Princess of Cleves' (1678), her most celebrated work, revealing the conflict between love and duty in a woman's heart, and one of the classics of French literature. She wrote also a 'History of Henrietta of England' (1720), and 'Memoirs of the Court of France for the Years 1688 and 1689' (1731). Consult 'Lives,' Haussonville and Rea (1909). See PRINCESS OF CLEVES, THE.

LA FÈRE, lą fār', France, city in the department of the Aisne and the arrondissement Laon, on the river Oise which is joined here by the Serre. It is a fortification of second class with several outer forts and has a church of the 15th century, an artillery school, arsenal, college, theatre, museum, machine works, oil-factory, etc. When the World War broke out (1914) it had about 5,000 inhabitants. It was captured by the Prussians under Bülow on 27 Feb. 1814, but held out in 1815 against bombardment and investment. In 1870 it surrendered to the Germans after two days' bombardment and an ineffectual sortie.

LA FLÈCHE, lą flĕsh', France, town and capital of an arrondissement in the department of Sarthe, on the Loire, 30 miles southwest of Le Mans. It is the seat of the famous Prytanée, a school for the sons of officers, originally a college founded for the Jesuits in 1607 by Henry IV. It is a preparatory school for Saint-Cyr. The town carries on tanning, flour milling, paper making and also has establishments for the manufacture of bicycles, gloves, wooden shoes, etc. Pop. (town) 7,800; (commune) 10,830.

LA FLESCHE, Susette. See "BRIGHT EYES."

LA FOLLETTE, lą fŏl-lĕt, **Robert Marion,** American statesman: b. Primrose, Wis., 14 June 1855. He was graduated from the University of Wisconsin in 1879, and the next year was admitted to the bar. He became district attorney of Dane County in 1880, retaining that position till 1884, when he took up the regular practice of his profession. In 1887 he was elected to Congress, serving till 1891; he won reputation as an orator, and as a member of the Committee of Ways and Means took a prominent part in the framing of the McKinley Tariff Bill. At the close of his service in Congress he resumed his practice, and remained active in politics, becoming one of the leaders of the younger men in the Republican party. He took part in a campaign against the exclusive privileges of corporations and against the boss system. His two pamphlets, 'Menace of the Machine' and 'The Nomination of Candidates by Australian Ballot' (1897), attracted wide attention. In them he outlined his program for electoral reform in Wisconsin. He was elected governor of his State three times, 1900, 1902 and 1904. As governor he led in the movement for a direct primary law, for the equalization of taxation and the regulation of railroad rates. He resigned the governorship in 1905 to become United States senator and was re-elected in 1911. In the Senate he has demanded progressive legislation and has become well known for his advocacy of the physical valuation of railroads, his speeches on

railroad subjects showing him to be a profound student of these questions. He was prominently mentioned for the Presidential nomination in 1908, receiving 25 votes, and again in 1912. During the Taft administration he voted with the Democrats on some of the tariff schedules which were vetoed by the President. He remained in the Republican ranks in 1912, being strongly opposed to Roosevelt, the Progressive leader of that year. In the first Wilson administration his opinion was often consulted. He was the chief of a small filibustering pacifist group in the Senate which opposed the arming of American merchant vessels in the European War zone. His action was severely criticised by the people and press of the country.

LA FONTAINE, là fŏn-tĕn, **Jean de,** French poet: b. Chateau-Thierry, Champagne, 8 July 1621; d. Paris, 13 April 1695. He was the son of Charles de la Fontaine, a forest ranger of the highest middle class. Jean was the eldest child and was sent to school at Rheims. After finishing at the grammar school he studied for a time without much seriousness for the priesthood, but abandoned it because of lack of interest. At the age of 26 his father resigned his position in Jean's favor, and married him to Marie Héricart, a girl of 16, with considerable fortune. The marriage was not altogether satisfactory, for La Fontaine was absent most of the time, squandered his wife's fortune, in 1658 consented to a "separation des biens." For the greater part of his life he lived at Paris, while his wife remained at Chateau-Thierry.

It was not until he was 30 that La Fontaine began to devote himself to literature. Content at first with the lighter forms of poetical composition, he wrote his first serious work, 'L'Eunuque,' an adaptation of the 'Eunuchus' of Terence in 1654. This was addressed to Fouquet, and won for the author his first patron. A number of minor poems and ballads were also written for the superintendent. When the displeasure of the sovereign was incurred by Fouquet, La Fontaine found new patrons in the Duke and Duchess of Bouillon, who settled some of his legal difficulties and made him welcome at their home. In 1664 his first book of the 'Contes' appeared. They are stories with old themes based on Boccaccio, the 'Cent Nouvelles Nouvelles,' and other collections of legends, reanimated by his swift and easy power of narration and his keen analysis of the characters. Among his best friends of this period were Racine, Boileau and Molière, with whom he formed the famous quartet of the Rue du Vieux Colombier, which made the literary history of the time. The Duchess Dowager of Orleans was his next powerful friend. He lived for a few years under her protection, and at her death was invited to the home of Madame de la Sablière, where he remained for the next 20 years.

His 'Les Amours de Psyche' and 'Adonis,' romantic novels, were printed in 1669. His second volume of 'Contes' had appeared in 1666, and two years later six books of the 'Fables' were published. Contemporary critics gave high estimates of his works, and public recognition came in 1683, when despite considerable opposition he was elected to the Academy. His health began to fail, and it was during a severe illness (about 1692) that he was converted and repented of the improprieties of many of his stories. The death of Madame de Sablière in 1693 affected him profoundly, and, broken in health and old, he accepted the patronage of Monsieur and Madame Hervait who cared for him in his last days.

The curious personality of La Fontaine has given rise to many stories concerning his life and habits. The candor and simplicity of his character acquired for him the title of "le bon homme." He was proverbially absent-minded, awkward and rude in society. The best of his works are the 'Contes' and the 'Fables,' which mark him as the master of narrators of short stories and tales. The latter have received more favorable comment, since their tone has pleased more exacting critics; while the improprieties of the former have blinded some to the high artistic value of the composition itself. The 'Fables' abound in keen analysis, cleverly hidden political teaching, natural and homely morals and delightful descriptive passages. His rhyme is of artful irregularity and is the art medium for his deft and skilful power of narration. Of his plays, which are considerably weaker than his other works, the most noteworthy are 'Le Florentin'; 'Ragotin' and 'La Coupe enchantée.' His separate poetical works are represented by 'La captivité de Saint Malo' (1673) and the 'Poëme du Quinquina' (1682). A volume of mystically religious verse was published by him in 1671, and several unimportant comedies (collected in 1702). His letters, scattered poems, etc., were edited as 'Œuvres diverses' in 1729. Both the 'Contes' and the 'Fables' have been superbly printed. The latter were illustrated by Oudry (1755–59), and the former by Eisen 1762. Gustave Doré also did illustrations for the 'Fables.' The best scholarly edition is that by Walcknenaer (1826–27), who has also written an excellent biography and critical estimate of La Fontaine. Most well known is the edition by Regnier in the 'Grand Ecrivains' series (9 vols., 1888–92). Other good editions are by Moland (7 vols., 1872–76) and Marty-Laveaux (5 vols., 1857–77). Consult Lafenestre, G., 'Jean de la Fontaine' (1885); Faguet, E., 'Jean de la Fontaine' (1900); Taine, 'La Fontaine et ses fables' (15th ed., 1901); Hookum, P., 'The Masterpieces of La Fontaine' (New York 1916). See LA FONTAINE FABLES.

LA FONTAINE, Sir **Louis Hippolyte,** Canadian statesman and judge: b. Boucherville, Lower Canada, October 1807; d. Montreal, 26 Feb. 1864. He early achieved prominence at the bar, and after the rebellion of 1837, in which he was accused of complicity, he went to England and afterward to France, and on returning to Canada in 1838 was imprisoned but released without being brought to trial. He became prominent in the Assembly of United Canada, was joint first minister in the La Fontaine-Baldwin administrations (1842–43, 1848–51). In the second of these important measures were passed and reforms effected — University and Rebellion Losses bills, the introduction of the decimal currency, reorganization of the postal system and the reduction of rates. La Fontaine worked steadily to create a better feeling between the French and British elements in the two provinces. His was the first cabinet

in which the principle of colonial government was recognized. In 1853 he became chief justice of the Court of Queen's Bench of Quebec, and as such presided over the special Seigneurial Court which met in 1855 to adjudicate on claims under the act of the previous year abolishing feudal rights and duties in Lower Canada. He was created a baronet in 1854. Consult 'Baldwin, Lafontaine, Hincks,' by S. Leacock, in the 'Makers of Canada' series (Toronto 1907).

LA FONTAINE FABLES. The Fables of La Fontaine are part and parcel of French literary consciousness to a greater degree than any other classic of its literature. For generations many of these little apologues have been read, committed to memory, recited, paraphrased, by every French school boy and school girl. Countless phrases from them are current coin of conversation; familiarity with them is assumed among all who have more than the rudiments of education.

The first collection of these Fables appeared in 1668 when La Fontaine was already 47 and known to readers chiefly as the author of 'Contes,' lively stories in verse, grazing and sometimes transgressing the bounds of license. The 'Fables' had no such over-spicing. Additional groups of them appeared in 1678–79 and in 1694. After 1683 La Fontaine's mellowed genius expressed itself in this form alone. In all there are 239 of the 'Fables,' varying in length from a few lines to some hundred, those written later being as a rule longer than the earlier. They are divided into 12 books. The first six books, collected in 1668, were in the main adapted from the classical fabulists Æsop, Babrius and Phædrus. In the later books there is a wider range. The Indian Bidpai is drawn upon, as those Eastern fables had come to the French through the Persian. Avienus and Horace are laid under contribution and the earlier French writers, Rabelais, Marot, Maturin Regnier and Des Periers. Contemporary happenings, too, were occasionally turned to account, as for instance an accident at the funeral of M. de Boufflers (vii, II). No fable, so far as appears, is of La Fontaine's invention. The subject is often common property of many ages and races. What gives La Fontaine's 'Fables' their rare distinction is the freshness in narration, the deftness of touch, the unconstrained suppleness of metrical structure, the unfailing humor of the pointed moral, the consummate art of their apparent artlessness.

The personages of the 'Fables' are usually animals, each, as Taine has observed, standing as a rule, of course with frequent exceptions, for a distinct class in French society in the age of Louis XIV. The lion is the king; so, too, the rarely introduced elephant. The tiger and the bear stand for the great nobles and the arrogant officials. The ape, the fox and the wolf represent different types of courtiers, as they might be observed at Versailles, shallow imitators of royalty, shrewd self-seekers, time-servers, knavish fops. The dog is the gentleman in waiting, obsequious and supercilious by turns; the cat the hypocrite, watching his chance of advantage; the ass the eternal dupe. But, though these animals stand for men, La Fontaine never forgets that they are animals, and shows himself always a keen, if desultory, observer of nature. Where men are introduced, these too are social types, the king, the lord, the priest, the monk, the recluse, the burgher, the pedant, the doctor, the coward, the vain man, the arrogant man, the hypocrite, the self-seeker, and, most sympathetically treated of all, the peasant laborer. It has been well said of La Fontaine that he knew men like Molière and society like Saint-Simon. Keen insight into the foibles of human nature is found throughout the 'Fables,' but in the later books admirable ingenuity is employed to make the fable cover, yet convey, social doctrines and sympathies more democratic than the age would have tolerated in unmasked expression. So these 'Fables,' first delighting the child for their own sake, delight the man as social parables, full of ageless teachings of worldly wisdom, of ironic observation, of broad humanity, for all their seeming child-like simplicity.

Lamartine could find in La Fontaine's 'Fables' only "limping, disjointed, unequal verses, without symmetry either to the ear or on the page." But the poets of the Romantic School, Hugo, Musset, Gautier and their fellows, found in the popular favor these verses had attained and held an incentive to undertake an emancipation of French prosody which they in large measure achieved. Yet it may be doubted if any lines they wrote awaken so manifold an echo wherever French is spoken as the little apologues of the Grasshopper and the Ant, the Crow and the Fox, Death and the Wood-cutter, the Animals in the Pestilence, the Two Pigeons and many more that crowd to memory. "La Fontaine's Fables," wrote Madame de Sévigné, "are like a basket of strawberries. You begin by selecting the largest and best, but, little by little, you eat first one, then another, till at last the basket is empty." There are translations into English verse by E. Wright and Rev. W. L. Collins. An attractive edition of the original text with a preface by Jules Claretie was published in two volumes (New York 1910).

BENJAMIN W. WELLS.

LA FOURCHE, lą foorsh, a bayou in southeast Louisiana, and an outlet of the Mississippi River, which begins at Donaldsonville, on the right bank, and flows southeast to the Gulf of Mexico, through Fourchon and Timbalier passes, about 50 miles west of the Delta of the Mississippi. It has a total length of 150 miles and is navigable by steamboats 100 miles from its mouth.

LA GIOCONDA, lą jī'o-kŏn'dą, a tragedy in four acts, in prose by Gabriele d'Annunzio and dedicated to "Eleonora Duse delle belle mani." It was first played 15 April 1899, at the theatre Bellini, Palermo, and was not very warmly received. Although the prose form and modern language of the play, the time and the place of the events differentiate it from the old Greek drama, nevertheless, the inexorable fatality which dominates the course of events and against which human defense is impotent renders the play tragic as in the case of the fateful tragedies of antiquity. And yet this fatality is not the predestination of the Greek drama, but a conception of Beauty, whether created by art or nature, as the sovereign power of the world, to which must necessarily be sacrificed goodness, morality, and even life

itself. The three principal characters are Lucio Settala, a sculptor, his wife, Silvia, and his model and the inspirer of his works of art, Gioconda Diante, a woman of marvelous beauty, with whom he is infatuated. Silvia represents virtue, and Giooonda the supremely beautiful in art. The battle between these two for the soul of the sculptor forms the dramatic struggle of the tragedy. Finally Art triumphs over Virtue, just as a man triumphed over destiny in 'La Città Morta'; or, rather, in both cases, the triumph is with Eros, the instigator and director of the motif in d'Annunzio's productions. In 'La Gioconda' æsthetic fatality has its fulfilment amid the tears of the good and innocent, upon the ruin of whom the work of immortal art rises, Beauty reigns supreme over the moral virtues trampled in the dust. Despite the lack of action throughout the play, its nonconformity by reason of very long passages to what is supposed to be the conventional dramatic procedure; despite its reversal of generally accepted standards of the conduct of life and the horrible mutilation with which the tragedy ends; despite the supposed influence of German and French writers, the play remains, none the less, as in the case of 'La Città Morta,' a thoroughly original production such as only d'Annunzio is capable of producing. 'La Gioconda' has been well translated by Arthur Symons (Chicago 1913). Consult Dornis, Jean, 'Le theatre de Gabriel d'Annunzio,' in *Revue des deux mondes* (pp. 655–681, February 1904); Mantovani, D., 'Letteratura contemporanea' (Turin-Rome 1913); Mazzoni, Guido, 'La Gioconda' (in *Nuova Antologia*, No. 165, 1899, pp. 314–337).

JAMES GEDDES, JR.

LA GRANDE, lą-grānd', Ore., city and county seat of Union County, on the Grande Ronde River, and on the Oregon Railroad, branch of the Union Pacific, 300 miles east of Portland. It is the commercial and trading centre of an extensive live-stock, grain and fruit growing region, and has flour mills, brick works, railroad shops, cigar factories, sash, door and box factory, creameries, foundry, soda-water works, lumber mills, beet sugar and other factories. There are two national banks, and the value of the city's taxable property is $3,700,000. It contains a high school, three grade schools, courthouse, city hall, Federal building, and Elks', Masonic and Odd Fellows' buildings. The city is governed under a commission-manager charter. Pop. 7,000.

LA GRANGE, lą-grānj', Ga., city and county-seat of Troup County, on the Macon and Birmingham and on the Atlanta and West Point railroads, 70 miles southwest of Atlanta. A Baptist female college and a Methodist female college are located here. The town was settled in 1826 and was incorporated two years later. Under a charter of 1891 the city is governed by a mayor, elected annually, and a council elected every two years. It has numerous industries, including cotton and cottonseed-oil mills, a creamery, and is of importance as a trading centre. The waterworks, electric-light and sewage systems are municipally owned. Pop. 5,587.

LA GRANGE, Ill., town in Cook County, on the Chicago, Burlington and Quincy Railroad, 15 miles west from Chicago. It is a suburban and residential town largely populated by Chicago business men, and has numerous churches, public and private schools and two weekly newspapers. It contains Broadview Seminary, Saint Joseph's Institute, Nazareth Academy and a State Masonic Orphans' Home. Pop. 5,282.

LA GRANGE, Ind., town and county-seat of La Grange County, on the Grand Rapids and Indiana Railroad, 45 miles northwest of Fort Wayne. It is the centre of a considerable agriculture section and has numerous manufacturing interests, including flour and lumber mills, chair factories, agricultural implement works, pickles, ice, ice cream, cement-brick works, etc. The waterworks are municipally owned. Pop. 1,772.

LA GRANGE, Tex., city and county-seat of Fayette County, on the Colorado River and on the Southern Pacific and the Missouri, Kansas and Texas railroads, 80 miles southeast of Austin. It has a cotton trade of 15,000 bales annually, and is an important shipping point for cottonseed-oil, grain and live-stock. There are cotton gins, compresses and cottonseed-oil mills and other industries here. The waterworks are owned by the city. Pop. 1,850.

LA GRANGE COLLEGE, an educational institution in La Grange, Mo., founded in 1858 under the auspices of the Baptist Church. It has 13 professors and instructors, 175 students, 8,000 volumes in library and productive endowment of $50,000. Its grounds and buildings are valued at $65,000; its income is $7,000.

LA GRITA, lą grē'tą, town in Venezuela, in the state of Táchira, located in a beautiful mountain region 5,000 feet above the sea, and surrounded by coffee, sugar, wheat, cacao, rice and tobacco plantations. It lies 75 miles south of Lake Maracaibo and 60 miles southwest of Mérida. The town, which has a most delightful climate, was founded in 1576 by Francisco de Cáceres. It has suffered from several destructive earthquakes. Pop. (commune) 26,000.

LA GUAYRA, lą gwī'rä, or **LA GUAIRA**, city and seaport in Venezuela, about five miles from Caracas, on the Caribbean Sea. It was founded in 1588 and is the most important commercial city in the republic. The harbor which was formerly an open roadstead has been improved by a breakwater, and is well protected by a fort. It has a floating dry dock and shipbuilding plant. La Guayra exports coffee, cocoa and skins, and imports chiefly manufactured goods. Its annual trade amounts to about $12,000,000. It contains cigar, cigarettes, shoes and hat factories, the products of which go entirely into the home market. It has steamship communication with Europe and North America. It is connected with the capital by a railway 29 miles long, winding around the bases of the mountains. The port was blockaded in 1903 by the British and German fleets, pending the settlement of claims against the government. The climate is very hot and its unhealthfulness has been lessened by modern sanitary improvements. Pop. 12,000.

LA HABANA, Cuba. See HAVANA, PROVINCE.

LA HIRE, lą hīr', **Etienne de Vignolles**, French general: b. about 1390; d. 11 Jan. 1443.

On the fall of the town of Coucy (1418), besieged by the Duke of Burgundy, he bravely fought his way through the enemy at the head of the garrison. He hurried (1429) with Jeanne d'Arc to the aid of Orleans and showed his bravery at Jargeau and Patay. In 1431 he pressed forward to Rouen to release the Maid of Orleans and was captured by the English, but was ransomed and devastated the provinces occupied by the English and Burgundians. His romantic bravery and his faithful adherence to the Maid of Orleans caused him to be called La Hire, meaning, in Burgundian dialect, the snarling of a dog, his rough style also making him a favorite French cavalier and furnishing the reason for using his name in court-cards for the knave of hearts.

LA HONTAN, lą ôṅ'tăṅ, **Armand Louis,** BARON DE, French soldier and traveler: b. Mont-de-Marsan, about 1666; d. Hanover, 1715. He went to Canada (1683) and served as a common soldier till he was advanced in the ranks, and as commander of several inland forts explored the great lakes. In 1691 he returned to France to attempt to regain his patrimony. He returned to Canada (1693) and was made king's lieutenant in Newfoundland and promptly picked a quarrel with the governor, fleeing on a merchant vessel to escape arrest, and landed (1694) in Portugal to arrive in Paris in time to receive his dismissal from office. Leaving Paris he went to his native province in Gascony, but hearing he was about to be arrested, he fled to Spain, then retired to Hanover and died there. He published an account of his adventures in America, together with his description of "the different inhabitants, the nature of their government, their commerce, costumes and religion" under the title 'Nouveaux voyages dans l'Amérique septentrionale' (The Hague 1703, 1709; Amsterdam 1705, 1742) with maps and drawings. A third volume appeared (Amsterdam 1704) under title of 'Suite du voyage de l'Amérique,' both the works being published together later (Amsterdam 1728). He relates the points in his campaign at Michillimakinac, which he left to reach the Mississippi via Wisconsin, using Carver's route. He describes a trip along a river which he names the Rivière Long and gives considerable details, but some writers declare this part to be fiction.

LA JONQUIÈRE, lą zhôṅ'kyār', **Jacques Pierre Taffanel,** MARQUIS DE, French naval officer: b. Lagraisses, near Alby, 1680; d. Quebec, Canada, 1753. He accompanied Duguay-Frouin at the taking of Rio Janeiro (1711), was captain under Admiral de Court (1744) at the battle of Toulon and commanded the French fleet at the battle of Finisterre (1747), with his six vessels fighting against 17 British men of the line. Taken prisoner, he gained his liberty on the Treaty of Aix-la-Chapelle when (1749) he went to Quebec as governor of Canada to which he had been appointed in 1746, but his two former attempts to cross the ocean had been frustrated. He proved an able governor.

LA LANDELLE, lą läṅ'dĕl, **Guillaume Joseph Gabriel de,** French author: b. Montpellier, 5 May 1812; d. 19 Jan. 1886. After finishing his studies at Strassburg he entered (1828) the navy, becoming lieutenant after 11 years' service. He wrote quite copiously novels depicting maritime warfare, the manners and customs of seafaring men, and other phases of life he had experienced. His voyages and activities in South America afford the basis of some of his plots. Among the best-known novels are 'La Grogone' (1844); 'Frise-Poulet ou les epaulettes d'amiral' (1847); 'La couronne navale' (1848); 'Une haine à bord' (1851) 'Les princes d'ébène' (1852); 'Le dernier des Flibustiers' (1858); 'Sans-Peur le corsaire' (1859). In deeper vein are his works, 'Le langage des marins, recherches historiques et critiques sur le vocabulaire maritime' (1859); 'Le tableau de la mer' (1862–69, 4 vols.).

LA LINEA, lą lē'nā-ą, Spain, town in the province Cadiz, on the border or *line* (from whence its name) bounding on Gibraltar. Some consider it a suburb of San Roque. It is of recent growth and its chief buildings are the theatre and bull-ring, the casinos and the barracks; this being a frontier-post it has its garrison. The British razed the old fortifications in 1910. Gibraltar gets much of her fruit and vegetables from the market-gardeners and the laborers of Gibraltar make this their dwelling place.

LA MARE AU DIABLE, lą măr ō dy'-âbl ('The Devil's Pool'). The most perfect of the works of George Sand was undoubtedly 'La Mare au Diable' (1846). Its perfection is due to the fact that it escapes most of her characteristic defects and possesses her finest qualities in their full maturity. This resulted quite naturally from the choice of a simple plot — the love a lonely ploughman feels for a poor shepherdess just emerging into womanhood, and a setting laid in the heart of Berri, the country where the author had lived as a child, and to which she had now returned. The characters, simple Berrichon peasants, as well as the country, were known to her, therefore, not through an imagination only too easily fired, but through observation and long years of sympathetic interest. There is consequently a refreshing absence of that impassioned pleading which frequently threw her early works out of artistic focus and gave us threats and tears for facts and blood. Intense individualist that she was, her distrust of the perplexities of society had been re-enforced by her own unhappy marriage, and from the first she had, with Rousseau and Wordsworth, favored the primitive, the simple soul, close to nature. Here she found warrant for her faith that both man and nature are good. This had been indicated in many earlier incidental characters, the flower girls in 'Andre' (1833), the country philosopher, Patience, in 'Mauprat' (1837), and the story of the poacher, Mouny-Robin (1841). But throughout that earlier period her mind had been tense with the social problem. This nervous tension had disappeared with the years, and now among the scenes of her childhood her native genius had its way. There is here a sureness of touch and the sense of being on firmer ground. It is not impossible that in the peasants she also saw the salvation and future of France. Their way of life, their homes, the country roads, the night in the woods about the Devil's Pool are truly and beautifully described, and the idealized peasants themselves are likewise true, at least in the sense that they

are psychologically consistent and conform to a healthy ideal. The style is simple, limpid and musical, like a woodland brook. In spite of the seemingly unpremeditated manner of her narration, the author keeps steadily to her story and in construction it is superior to 'François le Champi' or 'La Petite Fadette' which followed it. The student of George Sand feels that she had turned with a sense of relief to "these Georgics of France," as Ste. Beuve aptly called them, and there was something undoubtedly fresh and reassuring to readers stirred by the revolutionary spirit of '48 in this new and hopeful portrayal of a realm that promised humanity health, stability and strength. Consult Krenine, 'George Sand' (Vol. III).

CHRISTIAN GAUSS.

LA MARMORA, lą mär'mō-rą, **Alfonso Ferrero**, MARQUIS OF, Italian general and statesman: b. Turin, 18 Nov. 1804; d. Florence, 5 Jan. 1878. He was educated at the Sardinian Military Academy, was advanced (1823) to lieutenant of artillery and (1831) captain. He distinguished himself in the war (1848) against Austria at the siege of Peschiera and was advanced to the rank of brigadier-general. In 1849 he suppressed the rebellion in Genoa and took the portfolio of Minister of War to thoroughly reorganize a disrupted army. In 1855 he commanded the Sardinian expeditionary forces to the Crimea. From 1856 to 1859 he was Minister of War and Marine and became chief of the general staff on the outbreak of war with Austria. After the treaty of peace of Villa-Franca he again became Minister of War and Marine (1860). Late in 1861 he became first prefect at Naples and showed energetic action against the movements of Garibaldi and of the Camorra. He headed (1864) the cabinet, after the Turin troubles, as Minister of Foreign Affairs and carried out the September convention with France. In 1866 he concluded a trade treaty with Germany and an alliance with Prussia, and when the war broke out he joined the king and army as chief of general staff. The unsuccessful plan of campaign was his and he fell into great disfavor after the unfortunate battle of Custozza, resigning his portfolio. He wrote much in defense of his military plans and after the death of his former adjutant and friend, Govone, he published the dispatches of the Berlin (1866) mission in 'Un pó-più di luce' (Florence 1873) to prove faithlessness and traitorous intent of the Bismarck policy. The denunciations of Bismarck and Prussia stopped him from issuing the second volume of the work, but he issued 'I segreti di stato nel governo constitutionale' (ib. 1877) in self-defense. In 1891 a statue on horseback was erected in his memory at Turin. Consult Massari, 'Il generale Alfonso di La Marmora' (Milan 1880) and a similar work by Chiala, 'Le général La Marmora et l'Alliance prussienne' (Paris 1878).

LA MESA, lą mā'sä, Colombia, a picturesque city located on a high plain about 25 miles from Bogotá. Owing to its elevation above sea-level (4,225 feet), its climate is genial. The surrounding country is a fertile agricultural region. Trade is carried on in cacao, salt, grain and hats. Pop. about 5,250.

LA METTRIE, lą mĕ-trē, **Julien Offray DE**, French physician and atheist: b. Saint Malo, 25 Dec. 1709; d. Berlin, 11 Nov. 1751. He studied theology in the Jansenist schools, then decided upon the pursuit of medicine and in 1733 went to Leyden to study under Boerhaave. In 1742 he was appointed surgeon to the guards in Paris. His medical observations led him to believe that physical phenomena were purely physical in their origin. His 'Histoire naturelle de l'âme' (1745) voiced this conviction and raised so strong a feeling against him that he fled to Leyden. There he elaborated his theories, presenting them forcibly in 'L'Homme Machine' (1748). He further expressed his beliefs in 'Discours sur le bonheur' and 'L'Art de jouir.' He maintained that happiness for the world could be found only in atheism, thereby ending theological strife and the ban on pleasures of the senses. He was forced to leave Leyden in 1748 and found a refuge at the court of Frederick the Great, who appointed him court reader. Among other writings are 'Observations de Médicine pratique' (1743); 'Reflexions sur l'origin des aminaux' (1750), etc.

LA MORRA, lą môr'rą, an ancient Roman game still played in Italy; the Romans designated the game *micare digitis*, "to flash with the fingers." The game requires two players and consists of the simultaneous throwing out of the right hands of the players and the calling of a number which, in order to score, must total the number of fingers extended upon the right hands of both players. A tie means no score, a correct guess one point; and the game is played for 5 or 10 points. It is commonly used as a gambling game. Consult Story, W. W., 'Rota ali Roma' (8th ed., Boston 1887).

LA MOTTE FOUQUÉ, lą môt foo'kā, **Friedrich Heinrich Karl**, BARON VON. See FOUQUÉ, FRIEDRICH HEINRICH KARL.

LA NAVIDAD, lą nä-vē-dād'. See NAVIDAD, LA.

LA NOUE, lą noo', **François de** (BRAS DE FER), Huguenot captain: b. near Nantes, 1531; d. Moncontour, 4 Aug. 1591. He came of an ancient Breton family and saw his first military service in Italy. He was in the first Huguenot War and in the second one distinguished himself by capturing Orleans in 1567 with only 15 followers. He commanded the rear guard at the battle of Jarnac in March 1569 and was taken prisoner at Moncontour in October of that year. However, he was soon exchanged, resumed the governorship of Poitou and defeated the royalist army at Rochefort. He lost his left arm at the battle of Fontenay in 1570, but an iron one was made for him, thus giving him the name "Bras de fer." With the dawn of peace in France he joined the Dutch Protestants in 1571, but was captured and sent as a prisoner to France. He was requested by Charles IX, after the massacre of Saint Bartholomew, to attempt the reconciliation of the Huguenots with the king, but finding the task impossible and war inevitable he gave up his royal commission and served as general of La Rochelle from 1574–78. With the conclusion of peace, La Noue served the Huguenot cause in Holland, but in 1580 he was taken prisoner by the Spaniards; they, holding him dangerous through the

splendid character he bore, confined him for five years in prison. While in prison he wrote 'Discours politiques et militaires,' a work of great value, which has been translated into English and German. He was exchanged in 1585 and bound not to take arms against his captors. In 1589 he joined Henry of Navarre, saw service through the siege of Paris, at Argues, Ivry and other battles, and was fatally wounded at the siege of Lamballe in Brittany. He wrote 'Déclaration pour prise d'armes et la défense de Sedan et Jamets' (1588); 'Observations sur l'histoire de Guicciardini' (2 vols., 1592), etc. His 'Correspondence' was published in 1854.

LA NOUVELLE HELOISE, la noo'vĕl ā-lō'ē'z ('The New Heloisa'). In 'Julie' or 'The New Heloisa' (1761) Rousseau gave play to his temperament and talent. Here his genius abounded, for it was not a work based on erudition or on the bitter facts of life against which his ardent disposition so frequently rebelled. It was a creation of pure fiction, of unhampered imagination, touching life only on the sides to which he was most attracted, and it left him the largest possible freedom of procedure. Writing, furthermore, in the epistolary style so common in 18th century French and English novels, he took full advantage of the discursive manner of his time. No little of the interest of the novel, therefore, lies outside of the plot proper, in eloquent passages on the right to love, the morality of duelling and suicide, the equality of men, the advantages of country as against city life, and above all on the beauties of lake and mountain scenery in Switzerland. Some 30 years before, Thomson had published his 'Seasons,' and more than 20 had passed since Haller had written his stilted but historically important descriptive poem 'The Alps.' Switzerland, however, had not yet become a place of pilgrimage for tourists. The success of the 'New Heloisa' was to bring them to the shores of Lake Geneva in increasing numbers, and not a few came to visit the scenes described in the famous novel and to wander about in them book in hand.

It would, however, be a serious mistake to overlook the extraordinary interest which the passionate love story itself aroused in Rousseau's contemporaries. The editions could not be printed rapidly enough, and persons of quality stood in line before circulating libraries for an opportunity to rent it at 10 sous an hour.

Rousseau's heroine was to him the model and type of the virtuous woman of sentiment. She had, to be sure, yielded to her plebeian lover and tutor, Saint Preux. Her later marriage she explains as due to motives of duty, devotion and friendship. That after Saint Preux's long absence he should have been invited to live at the house of his former mistress and her husband, and should have accepted, may well appear to have produced an unnecessarily strained situation, fraught with dangers for the virtuous but once passionate lovers. The tension is therefore relieved when Julie loses her life in attempting to save her child from drowning.

To attribute the genesis of Rousseau's famous story to his own attachment for Mme. d'Houdetot is no longer possible; for it seems well established that the novel had been planned before that episode. That he was indebted to Richardson and England is beyond question. For all this, however, most of his novel received its character and quality from the fact that it was prompted and colored by his own eager and vivid hopes, desires and aspirations. It is the expression of Rousseau's ideal of social and domestic life.

CHRISTIAN GAUSS.

LA PAZ, la päs (Sp. lä päth), department in the northwest of Bolivia, bounded on the north by Brazil, on the east and south by the departments of Beni, Cochabamba and Oruro, and on the west by Peru. Its area has never been accurately determined; according to a recent conservative estimate it is 75,742 square miles. Extensive tracts in the northern portion are still unexplored, and the boundary disputes with Brazil and Peru add a large element of uncertainty. Calculations based upon the extreme Bolivian claims give the fabulous area of 275,413 square miles. The department is divided into nine provinces and these are subdivided into cantons. The entire department is subject to a prefect, representing the national government. Some of the highest peaks of the Bolivian Andes rise above the great Titicaca Basin (itself 13,000 feet above sea-level) in the southern half of this department, which portion has a temperate and moderately salubrious climate (see LA PAZ, the capital, etc.). Chief products are copper, silver, tin, gold, coca, wheat, maize, barley, potatoes; in the torrid lowlands of the north, sugar-cane, rice, tobacco and coffee; and from the forests along the tributaries to the Amazon are obtained rubber and cinchona. Cattle and sheep are bred in large numbers on the upland pastures. The population, according to an official estimate, is 726,357.

LA PAZ, Bolivia, capital of the department of the same name, and, temporarily, of the republic (see SUCRE). It is the metropolis and commercial centre of Bolivia, situated in the Quebrada del Choqueyapu, 650 feet lower than Lake Titicaca (from which the distance by road is about 45 miles) and yet quite 12,120 feet above the level of the sea. The mean annual temperature is about 54° F., and the extremes of temperature 19° F. to 75° F. The clearness of the sky occasions rapid loss of heat by radiation; the nights are therefore much colder than the days. Though the thermometer often falls below freezing-point, plants are rarely frozen, for the reason that the air at this great height is very dry. It is substantially built on 40 hills, bridged by 20 bridges, with clean, well-paved streets. The Plaza Murillo, a fashionable promenade bordered with beautiful flowers, and the fine tree-bordered Alamada, are the best of its thoroughfares. The cathedral is distinguished by the fine carved stone work of its façades. There are some noteworthy public institutions — a museum, library, university with four faculties, professional schools of various kinds and courts. Railways connect with Antofagasta and the port of Arica. The city was founded in 1549 by Alonzo de Mendoza. Pop. 78,856.

LA PAZ, Mexico, port on the east shore and capital of the southern district of Baja California. It is pleasantly situated between

the coast range and the bay, and has commercial dealings principally with San Francisco, Mazatlán, Guaymas, San Blas and Manzanillo. Silver mining and agriculture are among principal industries, and the most valuable pearl fishery on the Pacific coast is here located. Pop. 5,536.

LA PELTRIE, lą pĕl'tre, **Marie Madeline de,** *née* CHAUVIGNY, French-Canadian educator: b. Alençon, 1603; d. Quebec, 1671. She was of a religious turn of mind, but was refused permission to enter a convent, was married at 17 and widowed at 22. She answered Father La Jeunes' appeal for help in the education of Indian girls in the Jesuit religion in Canada, and decided to employ her fortune in founding an institution for the work. In 1639 she went to Canada, accompanied by three nuns and several hospital sisters, and founded the Ursuline Convent at Quebec, the first school in Canada for the instruction of girls, teaching both whites and Indians. She was with the Montreal colony in 1642–46, when she returned to Quebec and became a nun, devoting her entire means to the convent.

LA PÉROUSE, lą pā'rooz', **Jean François de Galaup de,** French navigator: b. near Albi, Languedoc, France, 22 Aug. 1741; d. after 1788. He served in the French navy against England (1778–83), and was in command of the frigate *Astrée* in the attack on a British convoy off the coast of Nova Scotia in July 1781. He sailed in August 1785 with two ships on an exploring expedition to the Pacific, one of the objects of which was to discover the northwest passage from the Pacific side. By sailing through La Perouse Strait, between Saghalien and Yezo, he discovered that each of these was a separate island. He touched at points in China and Japan and visited the Solomon Islands and Australia. In February 1788 he sailed from Botany Bay, and after this no more was heard from him. In 1826 it was fully ascertained by the English Captain Dillon that both of the French ships had been wrecked in a storm on a coral reef off Vanikoro, an island lying north of the New Hebrides, and in 1898 a few relics of his party were found there. An account of the early portions of La Perouse's voyage, prepared from journals sent home by him, was published under the title of 'Journey Round the World.'

LA PEYROUSE, Philippe Picot de, French naturalist: b. near Toulouse, 1744; d. 1818. He was advocate-general in the parliament of his native town in 1768–71; thereafter until 1789 engaging in natural history researches. He was then named president of the administration of Toulouse, became inspector of mines and professor of natural science at Toulouse, and in 1800 he was mayor. He became perpetual secretary of the Toulouse Academy of Sciences in 1811, and during the period of the Hundred Days he served as president of the electoral college of Haute-Garonne. He wrote 'Description de plusieures espèces nouvelles d'orthocératites et d'ostracites' (1781); 'Traité des mines et forges à fer du comté de Foix' (1786); 'Flore des Pyrénées' (1795–1801); 'De quelques espèces d'orobes des Pyrénées' (1818), etc. Consult Decampe, 'Éloge de M. Le Baron de La Peyrouse' (1819).

LA PIEDAD, lą pē-ä-däd', Mexico, city in the state of Michoacan, near the northern boundary, on the Lerma River, 62 miles southwest of Guanajuato. It is the centre of a large agricultural district. A fine bridge crosses the Lerma at this point. Pop. 10,604.

LA PLACE, lą'pląs', or **PLACÆUS, Josué de,** French Protestant clergyman: b. Brittany about 1606; d. 17 Aug. 1665. He was educated at Saumur, became pastor of the Reformed church at Nantes in 1625 and professor of theology at Saumur in 1632. He wrote. 'Theses theologicæ de statu hominis lapsi ante gratiam' (1640), in which he set forth liberal views on the subject of original sin. His views were rejected at the *Formula consensus* of 1765. He also wrote 'Disputations academicæ' (3 vols., 1649–51), and 'De imputatione primi peccati Adami' (1655). His collected works were published (1699, 1702).

LA PLACE'S HYPOTHESIS. See LA PLACE, PIERRE SIMON, MARQUIS DE; NEBULAR HYPOTHESIS, THE.

LA PLATA, lą pla'tä, Argentine Republic, capital of the province of Buenos Aires. After the Congress of the republic declared Buenos Aires to be the capital, the legislature of the province of Buenos Aires decided to build a new city, which should be the provincial capital. The cornerstone of La Plata was laid on 19 Nov. 1882, in a barren waste a few miles from the village of Ensenada and about 24 miles below Buenos Aires, on the south shore of the Rio de la Plata. The port of La Plata, built in Ensenada, five miles distant, is in communication with the city by means of a railroad and a canal, which is navigable by seagoing vessels. The city is laid out on the same plan as Washington, D. C., with diagonal avenues 97½ feet wide, streets 58½ feet wide, and 23 public squares. The principal buildings are the government house, the capitol, and the various public departments, have been erected on a magnificent scale. To the National University there is attached an astronomical observatory, and it possesses one of the finest museums in South America, especially rich in the departments of palæontology and anthropology. There is an excellent water supply. There are several handsome churches, three theatres, a racecourse, a splendid park planted with eucalyptus trees and street railway service. Railways connect this port with nearly every province of the republic, and there is steamer connection with Liverpool. Pop. 106,382.

LA PLATA, Rio de, rē'ō dä, an estuary on the southeastern coast of South America, between Uruguay and Argentina; an outlet for the united waters of the Paraná and Uruguay rivers. The enormous outflow, estimated at 2,000,000 cubic feet per second, which in volume is exceeded only by that of the Amazon, creates powerful currents; treacherous shallows are formed over the washings brought down from the interior of the continent; and the low-lying southern shores afford no shelter from storm winds. Therefore navigation in this estuary, which is 143 miles wide at its mouth, and about 190 miles long, narrowing gradually above Montevideo and Buenos Aires, combines the perils of river and open sea. On the north shore there is one good natural harbor — that of Montevideo; on the Argentine side well-

directed efforts are being made to supply natural deficiencies by building massive docks, dredging deep-water channels and completing other extensive harbor improvements (see ARGENTINA; BUENOS AIRES; and LA PLATA). The region to which the Rio de la Plata, with the Uruguay, Paraná and Paraguay rivers, gives access, is of vast extent. The estuary was discovered in 1509 by Diaz de Solis, received its name (silver-river) from Sebastian Cabot, and was explored by Day in 1853 and by Page from 1853 to 1856. In the later years of Spanish dominion it was comprised in the vice-royalty of La Plata, from which the states of Argentina, Uruguay, Paraguay and Bolivia have been carved; and to-day the southern portions of that region sustain some of the most progressive of all Latin-American communities. Early in the last century Great Britain attempted to secure control of this continental gateway, a position which, as it now appears, would have enabled her to win in the south a colony possessing very great resources — another Canada, at least. In 1806, when England and Spain were at war, Spain being the ally of Napoleon, Maj.-Gen. William Carr Beresford, with about 1,600 men, arrived off Buenos Aires, and captured the city quite easily. But a few weeks later the invaders were driven out. A much larger army, commanded by General Whitelocke, was sent in 1808 to recapture Buenos Aires, and a separate force succeeded in taking possession of Montevideo. But the British were defeated on the south shore; General Whitelocke capitulated on the day of the attack, withdrew to his ships and surrendered Montevideo.

LA PORTE DU THIEL, lą pôrt dû tē'y', **François Jean Gabriel,** French Hellenist: b. Paris, 13 July 1742; d. 28 May 1815. He served in the army, but after 1763 he engaged wholly in the study of Greek language and literature. In 1779 he gained the privilege of studying the archives of the Vatican, and his discoveries and collections of material there form an important addition to mediæval history. He returned to France with more than 17,000 documents, which formed a basis for much of his later work, and many of which were published at the expense of the French government. He published 'Oreste, ou les choephores, tragédie d'Eschyle,' with notes (1770); 'Hymnes de Callimaque, nouvelle édition avec une version française et des notes' (1775); 'Théâtre d'Eschyle, traduit du grec en français' (2 vols., 1794); 'Géogrephie de Straton' (3 vols., 1805–15), etc.

LA RÁBIDA, lą rā'bē-dą, Spanish Franciscan convent of Santa Maria de Rábida on a hill near Pelos. The convent had fallen into ruins but was restored in 1855. Its historical interest identifies it with Christopher Columbus, who stopped there on the occasion of his projected visit to France to arouse interest in his theories. He succeeded in gaining the attention of the prior, who besought and gained for him the interest of Queen Isabella. A monument to Columbus, consisting of a column 225 feet in height, surmounted by a globe, was erected here in 1892.

LA RIVIÈRE, lą rē'vyār', **Alphonse Alfred Clément,** Canadian statesman: b. Montreal, 24 July 1842. He was educated at the Jacques Cartier Normal School and at Saint Mary's College, Montreal. He entered government service in 1871, going to Manitoba as secretary of the board of education and serving as superintendent of Catholic schools. He also edited *Le Manitoba.* He served in the Manitoba legislative assembly in 1878–89, and in the Canadian House of Commons in 1889–1904. He was Provincial Secretary, Minister of Agriculture and Provincial Treasurer in the government of Manitoba in 1878–89, and since 1905 has been immigration commissioner for Manitoba with headquarters at Montreal. He was appointed a senator by the Duke of Connaught in 1911.

LA ROCHE, lą rōsh, **Sophie,** German novelist: b. Kaufteuren, 6 Dec. 1731; d. Offenbach, 18 Feb. 1807. She was married to Georg Michael Frank von La Roche (or Lichtenfels) in 1754 and her home became a literary centre. The poets Goethe and Christoph Martin Weiland were both warm friends and admirers. Her earlier work shows the influence of Richardson's 'Clarissa Marlowe.' Author of 'Geschichte des Fraülein von Sternheim' (1771); 'Moralische Erzählungen' (1782); 'Geschichte von Miss Long' (1789); 'Schönes Bild der Resignation' (1795), and 'Melusinems Sommerabende' (1806).

LA ROCHEFOUCAULD, lą rōsh-foo-kō, **François,** DUC DE, PRINCE DE MARCILLAC, French courtier and moralist: b. Paris, 1613; d. there, 17 March 1680. He entered on a military career and was engaged as an officer at the age of 16 at the siege of Casale. In the wars and intrigues of the Fronde he served the party of the Parliament, took part in the defense of Bordeaux (1650), less from conviction than to please the Duc de Longueville, and he was wounded at the battle of Faubourg, Saint Antoine (1652). At the end of the civil war he abandoned the pursuits of ambition for a life of repose and reflection. He frequented the salon of Madame de Sablé, and his house became a resort of the most distinguished wits and people of culture of the time, Boileau, Racine, Molière, Madame de Sévigné and Madame de La Fayette. The first fruits of his literary activity were his 'Mémoires sur la Régence d'Anne d'Autriche,' a spirited representation of that time, published surreptitiously in 1662 without the author's knowledge, and by him repudiated; but his denial of the authorship was not generally credited. It is now believed that only about a third of this work is his. In 1665 appeared anonymously the work that has made his name immortal, 'Réflexions, ou Sentences et Maximes Nordles,' which passed through five editions in the course of the author's life, was subjected to careful revision by him and have frequently been republished. There are about 700 maxims, varying from two or three lines to half a page in length. No one prior to his day or since has given so much point, brevity replete with fullness, and cutting edge to his thoughts. The prevailing thought in the book is that self-love is the dominating spring of human action: virtue has its recompense, but in being virtuous it is only our desire to gain the recompense. This view is presented with so much piquancy and variety of aspect that the reader is much enamored of the author's skill in presenting his point of view that he forgets to condemn this libeller of the

human race. An English version by G. H. Powell appeared in 1903. Consult 'Lettres,' his correspondence published 1818; Bourdeau, 'La Rochefoucauld' (1895); Hemon, 'La Rochefoucauld' (1896); Rahlstede, 'Studien zu La Rochefoucauld' (1888). See MAXIMS.

LA ROCHEFOUCAULD-LIANCOURT, lyäṅ'koor', **François Alexandre Frédéric,** French philanthropist and social reformer: b. La Roche Guyon, 11 Jan. 1747; d. Paris, 27 March 1827. He early entered the carbineers as an officer, and after a visit to England he established a model farm and a school for the children of soldiers. The school from 1788 received royal support as the École des Enfants de la Patrie. He was elected to the States-General in 1789 and there carried forward his measures for social reform. While devoted to the person of Louis XVI he was by principle opposed to the government and endeavored to warn the king of the dangerous trend of public affairs. On 18 July, four days after the fall of the Bastile, he became president of the National Assembly, and afterward he was appointed to the command of a military division in Normandy. He hoped to secure the personal safety of the king and sought to have him take refuge in Rouen. Failing in this he aided the king with a large sum of money. During the Terror he found safety in England, and in 1795–97 he visited America. He returned to Paris in 1799 but took no part in politics, devoting himself to his projects of social betterment, and especially to the furtherance of vaccination. After the Restoration he entered the House of Peers. His school, the École des Enfants de la Patrie, received the favor and support of the successive governments and for 23 years he was government inspector of it. He founded the first savings bank in France and served as a member of boards of administration for hospitals, prisons and agriculture. He refused to support the government in 1823, which led to the loss of his positions and the abolition of his vaccination committee, the welfare of which he had greatly at heart. In protest the academies of science and medicine elected him to their membership. He never regained official favor. Author of 'Voyage dans les Estats — Unis d'Amerique' (8 vols., 1798); 'Les Prisons de Philadelphie' (1796).

LA ROCHEJACQUELEIN, lä rōsh-zhäk-läṅ, **Henri Du Verger,** COMTE DE, French Vendean royalist: b. Chatillon, 20 Aug. 1772; d. Nouaille, 4 March 1794. On the outbreak of the Revolution he retired to La Vendée, and the peasants of La Vendée having taken up arms in the royal cause, he placed himself at their head and addressed them in the short and pithy harangue: "Let us go to meet the enemy; if I draw back, kill me; if I advance, follow me; if I die, avenge me." After gaining 16 victories in 10 months he fell at Nouaille, shot by a Republican soldier whom he was offering quarter.

LA ROCHELLE. See ROCHELLE, LA.

LA RONCIÈRE LE NOURY, lą rōṅ'-syăr lĕ noo'rē', **Camille Adalbert Marie Clément,** BARON DE, French vice-admiral: b. Turin, 1813; d. Paris, 1881. He was admitted to the École Navale in 1829, received rank as ensign in 1834, captain in 1855, rear-admiral in 1861, and vice-admiral in 1868. He was in charge of the evacuation of Mexico in 1867; and at the outbreak of the Franco-Prussian War he was placed in command of the marines in the forts of Paris. He was at Saint Denis as commander-in-chief and participated in the battles before Paris, receiving the Grand Cross of the Legion of Honor in acknowledgment of his services. He was elected to the National Assembly in 1871 and to the Senate in 1876. He was an ardent supporter of the Bonapartes. Author of 'Considérations sur les marines à violes et à vapeur de France et d'Angleterre' (1844); 'La marine au séige de Paris' (1872).

LA ROTHIÈRE, lą rō'tyăr' France, village in the department of Aube, seven miles southwest of Brienne and 23 miles east of Troyes. It has historical prominence as the scene of a battle between the Allies under Blücher with 100,000 men and the French under Napoleon with 45,000 men, 1 Feb. 1814. Napoleon was defeated. The combined losses of the armies was 8,000 men, about evenly divided.

LA SALE, lą' sąl', **Antoine de,** French writer: b. in Provence, probably at Arles, about 1388; d. 1462. He entered the court of Anjou in 1402, doubtless as a page, and spent his life in the employment of various kings and princes. He is reckoned the most important satirist of his day but there is considerable doubt as to his authorship of several works ascribed to him, as he never acknowledged them. There is no doubt that 'Le petit Jehan de Saintré' (1459) is from his pen, and it is the work upon which his fame rests. It is dedicated to Jean d'Anjou, Duke de Calabre, one of the several princes he tutored; and 'La Salade' (1438–47), a textbook of studies suited to a prince, was likewise dedicated to his pupil. He is credited with the authorship of 'Les Quinze Joyes de Mariage,' one of the most celebrated of French satires and his claim is fairly well substantiated. The 'Cent nouvelles nouvelles' were long ascribed to Louis XI, but critics in general now credit the work to La Sale. The stories are modeled on the style of the Italian *novella* and are of a licentious character. There are numerous other works credited to him by various critics. 'La Salade' was printed several times in the 16th century, while the 19th century saw editions of his other works. The best editions are Guichard, J. M., 'Petit Jehan de Saintré' (1843); Wright, T., 'Les Cent Nouvelles Nouvelles' (1858); and Jannet, P., 'Les Quinze Joyes de Mariage' (1857).

LA SALETTE, lą są'lĕt, France, place of pilgrimage in the parish of La Salette-Fallavaux, department of Isère, 23 miles southeast of Grenoble. On 19 Sept. 1846, in an afternoon of full sunlight, the Virgin Mary is said to have appeared before two peasant children, Mélanie Calvat, called Mathieu, aged 15, and Maximin Giraud, aged 11. While the story was openly discredited outside the Church, and violently disputed within it, a great church was built there, the foundation for which was laid 25 May 1852. Miraculous cures are said to be wrought there and the church as a place of pilgrimage is second in fame only to the Lourdes. Consult Verdunoy, 'La Salette, étude critique' (Paris 1906).

LA SALLE, lą sąl, **Jean Baptiste de,** French priest and educator, called the father of modern pedagogy: b. Rheims, 30 April 1651;

d. Saint-Yon, 7 April 1719. After completing the preparatory course of humanities, he entered the university of his native city where, at the age of 19, he took his master's degree. Shortly afterward he went to the Seminary of Saint Sulpice at Paris; and, while living there, followed the theological courses of the Sorbonne. On Easter eve 1678, he was ordained priest, being already a titular canon at the Cathedral Church of Rheims; two years later, in 1681, after defending a thesis before the faculty of the University of Rheims he obtained the degree of doctor in sacred theology.

A man of means and academic culture, he was also a friend of the people, a true philanthropist, giving away all his patrimony in alms to help the deserving poor. He interested himself at an early period in education, especially the education of children belonging to the humbler classes. He noticed that nowhere was there a clear distinction drawn between primary and secondary education and that nowhere was there any provision made for instructing schoolchildren in subjects of acknowledged utility to them in after life. To correct this state of affairs he founded in 1681 a society of teachers under the name of Brothers of the Christian Schools (q.v.), enjoining them by rule to take the vows of religion but not to enter holy orders. By this latter regulation, he sought to free them from ecclesiastical duties so that they might be able to devote themselves unreservedly to the work of education. The rules and constitutions of the society were approved in 1724 by Pope Benedict XIII.

The first great change introduced by De la Salle and successfully carried out by his followers was the substitution of French for Latin as the language of the classroom. As in the case of antecedent reforms, this roused a swarm of wrathful critics; but it soon met with the approval of the universities and highest authorities in church and state.

The individual system of teaching was then in vogue, and as it seemed to him to involve loss of time and to favor idleness, he replaced it by the "simultaneous" method in which the teacher addresses himself to a numerous division and frequently to a whole class at a time. He insisted on the Socratic method of teaching for all subjects, rejecting the lecturing style as unsuited to elementary instruction. He also recommended the frequent use of object-lessons. Such thorough-going changes gave a great impetus to education inasmuch as it increased the efficiency of the teacher while diminishing his drudgery, and ensuring substantial results. In due time, these bold innovations in educational method brought about a general system of popular education in France as well as in other European countries, and merited for their author the title of Father of Modern Pedagogy. In 1684 he opened a *Seminaire de Maîtres d'Ecole* for the formation of competent masters for the rural districts, which seminary was the first normal school or training college founded in Europe. Admission was by examination; and during the course, opportunities were afforded for practice-work by the free schools attached to the institution. In his endeavors to instruct the masses and educate the people, De la Salle established in Paris in 1699 regular public courses in science and art in which instruction was given to all comers on Sunday from 12 to 3, the session being always concluded by a short religious instruction. These schools were called *Ecoles Dominicales* and were, in some respects, the prototype of our Sunday schools. At Saint-Yon, near Rouen, he also founded a school of higher studies in which the students were allowed to select the courses best adapted to their wants. De la Salle lived to see his society firmly established in France and his educational work appreciated at home and abroad. Among his published writings are 'Le Devoir du Chrétien' and 'La Conduite des Ecoles'; others are of an ascetical character and refer to the religious life.

This great educator and benefactor of the people was of a gentle yet firm disposition; severe to himself but kind and encouraging to others. The holiness of his life was proclaimed to the world by Pope Leo XIII, who on 24 May 1900 conferred on him the honors of canonization and enrolled him among the saints of the Catholic Church.

LA SALLE, René Robert Cavalier, Sieur de, French explorer: b. Rouen, France, 21 Nov. 1643; d. Texas, 19 March 1687. Born of a wealthy family, he became a novice of the Jesuit order, 5 Oct. 1658, and two years later took the vows and was known as Brother Robert Ignace. In October 1667 he left the order. He sailed for Canada in 1668 with the hope of making his fortune there; became owner of a seigniory and a fur trader at La Chine (so named for its supposed position on the route to China), explored Lake Ontario, established forts on the Saint Lawrence, was made by Frontenac commander of a fort which stood where Kingston, Ontario, now stands, and was the discoverer of the Niagara and Ohio rivers. Returning to France he received large grants of land in Canada, and was ennobled, but on the discovery by Marquette of the Mississippi, he left his new estate to seek the mouth of the great stream. His designs were favored by the French Minister of Marine, who supplied him with men and ships. In 1679 he had built and launched on the Niagara River a bark of 45 tons, the *Griffin*, crossed Lake Erie and Lake Saint Clair, and reached Green Bay. Here he loaded the *Griffin* with rich furs and sent it to meet the claims of his creditors at Montreal. He then proceeded in bark canoes and reached the banks of Lake Peoria, Illinois, where he built Fort Crèvecœur, and from thence he made a memorable journey, mostly on foot, back to Fort Frontenac, where he learned of the wreck of the *Griffin*, and another ship sent with supplies for him from France. In the meantime his little band of explorers had been scattered through dissensions, but he succeeded in gathering them and, late in 1681 he set out with an expedition and descended to the mouth of the Mississippi, of which he took formal possession in name of the French king (9 April 1682), and named the adjacent lands Louisiana, and built a fort. This was the great achievement of his life. In 1683 he constructed Fort Saint Louis, on "Starved Rock," near Utica, Ill. The recall of Frontenac was disastrous to the explorer's interest; his successor, La Barre, was hostile to western expansion. After a visit to France he failed on his return (1684) with 4 vessels and 280 men, to locate the mouth of the Missis-

sippi. He had a difference on this point with Beaujeu, the naval commander, who persisted in sailing on to Matagorda Bay in Texas. Here La Salle, to avoid further quarrels and recriminations, abandoned his companions; the colonists who followed him lost most of their supplies in a gale of wind, but managed to fortify the fort of Saint Louis; they failed in their agricultural attempts, and sought in vain for gold. Their numbers were reduced to 35, and in 1687 he set out for a return to Canada. Two men, Dubant and L'Archevêque, who had embarked capital in the enterprise, were incensed at its failure, and in a quarrel murdered the nephew of La Salle, who, when he enquired into the matter, was shot dead from ambush. Consult for memoir, in French, 'Historical Collections of Louisiana' (2d series, Vol. II); for letters and other documents, Pierre Margry's 'Découvertes'; Abbott, 'Adventures of Chevalier de la Salle and his Companions' (New York 1903); Parkman, 'La Salle and the Discovery of the Great West' (in 'French and English in North America,' Boston 1907); Shea, 'Early Voyage up and down the Mississippi' (Albany 1861); Justin Winson, 'Cartier to Frontenac' (Boston 1894).

LA SALLE, lą-săl', Ill., city in La Salle County, on the Illinois River, the Illinois and Michigan Canal, and on the Illinois Central and the Chicago, Rock Island and Pacific and other railroads, 99 miles southwest of Chicago. It is the centre of a large trade by river, canal and rail; is in a rich bituminous coal region; and is engaged in coal mining, zinc smelting and the manufacture of sulphuric acid, hydraulic cement, sewer pipe, bottles, clocks and ornamental pressed brick, common brick, plows, nickeloid, tools, machinery. Besides coal, cement rock, silica sand and fire clay are found in the neighborhood. It is the seat of Saint Bede College and Saint Mary's Hospital; has a public library; a State mine-rescue station, a bridge of the Illinois Central Railroad; good sewerage system, waterworks, hospitals, a national bank, electric light and street railroad plants, and daily and weekly newspapers. The city was settled in 1830, and named in honor of La Salle, the explorer who made a settlement at Starved Rock, near here. It was chartered in 1852. The government is vested in a mayor and council. The city owns and controls the electric-light plant and waterworks. Pop. 12,221. Consult 'History of La Salle County, Ill.' (2 vols., Chicago 1886).

LA SALLE COLLEGE, an educational institution in Philadelphia, Pa., founded in 1863 under the auspices of the Roman Catholic Church. It is under the management of the Brothers of the Christian Schools. In 1916 there were 26 instructors, 310 students, 11,700 volumes in the library, and the grounds and buildings were valued at $250,000.

LA SAUSSAYE, lą sō'sā, **Pierre Daniel Chantepie de**, Dutch theological scholar: b. Leeuwarden, 1848. He was professor at the University of Amsterdam in 1878–1900, and in 1900 was appointed professor of theological history and related branches at Leyden. Author of 'Lehrbuch der Religiousgeschichte' (2 vols., 1887–89; 2d ed., 1897), translated into English under the title 'Manual of the Science of Religion' (1891), and 'The Religion of the Teutons' (1902).

LA SERENA, lą sā-rā'ną, Chile, city, and capital of the department of Coquimbo (q.v.), on the Pacific Coast, 215 miles north of Valparaiso. A railroad connects it with Coquimbo, eight miles distant. Other railroads connect it with Vicuña and Rivadavia in the interior, and with Valparaiso and Santiago to the south. It is the seat of a bishopric and a Court of Appeals is located here. The city has a delightful climate, is surrounded by gardens and has fine straight streets bordered by well-built residences. It contains several plazas and promenades. Pop. 15,996.

LA SERNA Y DE HINOJOSA, lą sär'ną ē dā ē'nō-Hō'są, **José de**, Spanish general and viceroy: b. Jérez de la Frontera, 1770; d. Cadiz, 1832. He served in the Peninsular War and was with Wellington in 1813, and in 1815 received rank as field-marshal. In 1816 he commanded the Royalist army in Upper Peru. Acting against his own judgment, but in accordance with that of the viceroy, Pezuela, he was defeated by the patriots at Salta and Jujuy and resigned in 1819. The threatened invasion of San Martin induced him to accept the post of commander-in-chief of the forces against the patriot chief, and on 29 Jan. 1821, he succeeded his old antagonist, Pezuela, as viceroy. He was compelled to evacuate Lima, 6 July 1821, but set up his capital at Cuzco, and although cut off from Spain for three and a half years defended the interior successfully until the battle of Syacucho, 9 Dec. 1824, when he was defeated and with his army captured by Sucree. He returned to Spain in 1825, was created Count of the Sudes, and otherwise honored.

LA SIZERANNE, lą sēz'rąn', **Maurice de**, French philanthropist: b. Tain, in the department of Drôme, 1857. He was blind from the age of nine years, was educated at the Jeunes Aveugles in Paris and later was appointed professor there. He especially occupied himself in connection with literature for the blind, perfecting an abbreviated orthography for the blind widely adopted in France. He was the founder of *La Revue Braille*, and is a chevalier of the Legion of Honor. Author of 'Les aveugles utiles' (1881); 'Les Aveugles par un aveugles' (1888; 5th ed., 1912); 'Les Sœurs aveugles' (1901); 'La question des aveugles' (1911), etc.

LA SIZERANNE, Robert de, French writer and art critic, brother of Maurice de La Sizeranne (q.v.): b. Tain, in the department of Drôme, 1866. He was educated at the College de Vaugirard, Paris, was admitted to the bar in 1895, but turned to the study of art for a career. He received the Vitet prize from the French Academy in 1909. He was a contributor to the *Revue des Deux Mondes* and the *Revue Encyclopedique*, author of 'La Référundum communal' (1893); 'La peintre anglaise contemporaine' (1895); 'Ruskin et la religion de la beauté' (1897); 'Le miroir de la vie' (1902; 2d series, 1909); 'Pages choisies de Ruskin' (1908), etc.

LA TÈNE (lą tăin') **PERIOD**, name given an European period of culture known as the second early Iron Age, extending about

500 B.C. — 100 A.D., although some authorities lengthen the period to 700 B.C.— 100 A.D., and as late as 1000 A.D. in Scandinavia. It succeeds the Hallstalt phase, and pervaded France, Bohemia and England as well as the Scandinavian countries. In England the period has been called "late Celtic" and there have been important finds in Aylesford, Kent. The remains consist of swords, spear-heads, axes, scythes, knives, brooches, bronze kettles, belt-hooks, pins for fastening clothing and other articles for use or adornment.

LA TOUCHE-TRÉVILLE, lą toosh' trā'vēl', **Louis René Vassor,** VISCOUNT DE, French naval officer: b. Rochefort, 3 June 1745; d. Toulon, 20 Aug. 1804. He became a midshipman at the age of 12 and remained in the navy all his life. He served in the American Revolution, and for the capture of an English frigate off Newport, R. I., in 1780 he was promoted frigate-captain. He served under De Grasse and De Quichen, subsequently in the war, and was wounded at Yorktown in 1781. He was one of the framers of the Maritime Code in 1786, and in 1789 he was elected to the States-General. He attained rank as rear-admiral in 1792, served in the Mediterranean and off South America, and in 1795 was given command of the fleet at Aix, which, in conjunction with that of Admiral Joyeuse, was to operate against Santo Domingo. A misunderstanding concerning the supreme command caused the fleets to separate, La Touche-Tréville proceeding to Port-au-Prince, where he landed in time to save the city from being burned by the negroes. He fortified the city and remained in command of the French navy in those waters until 1803, making many attacks on British shipping and succeeding in forcing the strong fleet sent against him to retire in October 1803. Returning to Rochefort in December 1803 he received his commission as vice-admiral and was given command of the French fleet in the Mediterranean. However, a lingering fever contracted while in the West Indies ended his career a few months later.

LA TOUR, lą'toor, **Maurice Quentin de,** French artist: b. Saint Quentin, 5 Sept. 1704; d. there, 18 Feb. 1788. His art was practically self-developed although his early teacher, Spoede, influenced him in taking up pastel work, which was not at the time in favor, although it became fashionable later and was the medium through which La Tour won his fame as a portraitist. He was at Cambrai when the congress was in session in 1724 and later visited England, supposedly upon the invitation of the English ambassador. In 1737 La Tour first exhibited in the Salon, and in the succeeding 37 years exhibited there some 150 portraits of exceptional beauty and excellence. He was elected to the Academy in 1751 and became councillor in the following year upon his appointment as painter to the king. His art was twofold in that he possessed the faculty of painting his sitters at their best, often with surroundings of exceptional beauty, and at the same time produced an indisputable likeness so that he both pleased his patrons and disarmed the criticism of his fellow artists. His sitters included the royal family and the fashionable followers of the court, and as he painted until the age of 80 he amassed a large fortune with which he was very liberal. He founded three perpetual prizes for the École des Beaux-Arts in Paris, and endowed a school of design and other useful institutions at Saint Quentin. Probably the finest specimen of his art is the portrait of Madame de Pompadour, executed in life size and exhibited in the Salon in 1755, and now the most highly prized of the Louvre's collection of pastels. His portraits of Louis XV, his queen, the Dauphin and Dauphiness, Voltaire and Rousseau are regarded as being almost as valuable for their historical exactitude as for their high art value. The splendid collection of his work owned by the museum at Saint Quentin consists of works which were in his own possession at the time of his death and were bequeathed to the museum by La Tour's brother. Many of these are sketches for his finished portraits and afford a rich field for study. Consult Desmeze, C., 'M. Q. de La Tour, peintres du roi' (1854); Goncourt, E. and J. de., 'La Tour' (1867); Tourneux, 'La Tour, biographie critique' (1904).

LA TRAPPE, lą träp', the name of a Cistercian abbey founded by Count Rotrou of Perche in 1140. It was known as Notre Dame de la Maison Dieu and from its situation in a damp, unhealthy glen, accessible only by a narrow stony passage was called La Trappe ("the trap"). The monks were as distinguished for austerity during the 14th and the 15th century as they subsequently became for licentiousness and violence when they were known as the "Bandits of La Trappe." The monastery, however, passed into the hands of Armand Jean le Bouthilier de Rancé in the middle of the 17th century. This brilliant abbot had early abandoned himself to worldliness, but became converted, introduced Benedictine monks into La Trappe and enforced severe discipline. The brethren rose at 2 A.M., retired at 7, slept on straw, were forbidden wine and flesh, spent each evening some time in digging their own graves, and never spoke excepting to say to each other, "Memento mori." Rancé discouraged literary pursuits but enforced constant manual labor; he died in 1700, and the Trappists were driven out of France by the Revolution. They founded a house at Valsainte, Switzerland, which was destroyed by the French in 1798, but they were again put in possession of La Trappe on the restoration of the Bourbons. In 1829 the Trappist houses were closed by a royal decree, and all but nine monasteries were suppressed; these were compelled to seek refuge in Algiers 1844, and the United States in 1848, where they established houses in Kentucky, Iowa and Rhode Island. Consult Gaillardin, 'Les Trappistes ou l'Ordre de Citeaux au XIX Siècle, Histoire de la Trappe depuis sa Fondation' (1844).

LA TRÉMOILLE, lą trā'mwā'y', or **TRÉMOUILLE, Louis II de,** VISCOUNT DE THOUARS, PRINCE DE TALMONT ("CHEVALIER SANS REPROCHE"), French soldier: b. 20 Sept. 1460; d. Pavia, 24 Feb. 1525. He came of a distinguished family, commanded the army of Charles VIII in 1488, and at the battle of Saint-Aubin du Cormier defeated and captured the Duke of Orleans. He was appointed to the command of the army of Italy by Louis XII, captured Milan in 1500, but was defeated in the Neapolitan territories in 1503, and by the

Swiss at Novara in 1513. He fought at Marignano in 1515 and in 1522–23 he held Picardy against the English and Imperialists. He was killed in battle at Pavia. Consult Sandret, L., 'Louis II de la Trémoille, le chevalier sans reproche' (Paris 1881).

LA TUQUE, lą tük', Canada, village in the province of Quebec, 87 miles northwest of Quebec, on the Bostonnais and Saint Maurice rivers, and on the Quebec and Lake Saint John Railroad. The Saint Maurice River furnishes a water route to Grandes Piles. The town is chiefly interested in pulp manufacture. It has a Roman Catholic college, convent and hospital. Pop. about 4,000.

LA VALETTE, lą vą'lĕt, **Antoine Marie Chamans,** COUNT DE, French statesman: b. Paris, 1769; d. 15 Feb. 1830. He was in sympathy with the Revolution, but advocated leniency for Louis XVI and particularly for Marie Antoinette, whom he admired. He served under Napoleon in the Italian and Egyptian campaigns; was appointed Ambassador to Saxony by Napoleon, and was post director and Councillor of State during the First Empire and the Hundred Days. After the Restoration he was sentenced to death but was smuggled out of prison by his wife, who paid with her own life for the exploit. He wrote a series of memoirs which were published after his death and which constitute an important source of information concerning the First Empire, 'Mémoires et Souvenirs du Comte de La Valette' (2 vols., 1831; new ed., 1905).

LA VALLIÉRE, Louise Françoise de la Baume le Blanc de, loo-ēz frăn-swāz dĕ lă bōm lĕ blăn dĕ lä vä-lē-ār, French mistress of Louis XIV: b. Tours, 7 Aug. 1644; d. Paris, 6 June 1710. She was descended from an ancient and noble family, and in 1661 was brought to court by her mother, where Louis presently noticed her. Her manners were amiable and winning, and her sweet and tender disposition rendered her attractive. What is still more extraordinary, notwithstanding her equivocal position, she possessed extreme, indeed morbid, delicacy and modesty. She bore Louis four children, but was always painfully sensible of the disgrace of their birth. Two of them died in infancy. When superseded by Madame de Montespan she retired into the Carmelite convent in the suburb of Saint Jacques, where she took the veil in 1675. She is considered the author of 'Réflexions sur la Miséricorde de Dieu' (1680), a copy of which dated 1688, with corrections by Bossuet, was discovered in the Louvre in 1852. A collection of her letters was published in 1767. Madame de Genlis wrote a historical romance founded on the events of her life, and Lebrun executed a penitent Magdalene, of which the face is from her portrait.

LA VAULX, lą vō, **Henry,** COUNT DE, French aeronaut and author: b. Bierville, 2 April 1870. He served on scientific missions to Africa and Patagonia under the auspices of the French government. He delivered a series of lectures on aeronautics in the United States in 1905 and was credited with arousing interest in his subject resulting in the establishment of a number of aero clubs. He held several long distance records for aerial flights, one of which was from Paris to Kiev. He was a member of the Academy of Sciences and of the Geographical Society of Paris, and an officer in various French and international aero clubs. As an owner as well as an aviator he did much to further the development of aeronautics. Author of 'Sieze mille kilomèters en ballon' (1901); 'Voyage in Patagonie' (1901); 'Le triomphe de navigation aérienne' (1912), and collaborated with A. Galoupin in writing 'Cent mille lieues dans les airs' (7 vols., 1904–05); 'Le tour du monde de deux gosses' (1909); 'Le tour du monde en aéroplane' (1910).

LA VICTORIA DE JUNÍN, lą vĭk'tôr-yą' dā hoo' nĭn by Joaquín Olmedo. During the Peninsular War in Spain the patriotic poet, Quintana, cried out in his heroic odes against the conquest attempted by the tyrant, Napoleon. In similar fashion the Spanish-American poet, Joaquín Olmedo (1780–1847), voiced the spirit of revolt in the Spanish colonies which rose against the tyrannous exactions of the motherland and combatted the Spaniard as a tyrannous dominator. On 6 Aug. 1824, the forces of the Liberator, Bolívar, won a signal victory over the Spaniards at Junín in the vice-royalty of Peru. This triumph was followed on 9 December of the same year by the decisive battle of Ayacuchó, in which Sucre, a lieutenant of Bolívar, vanquished a Spanish army with his smaller body of American patriots. As a result of the two victories, the independence of Peru, and ultimately of all Spanish America, was achieved. The Liberator requested Olmedo to celebrate the two battles and he responded with the long ode entitled 'La Victoria de Junín, Canto a Bolívar,' which was published at London in 1826, while Olmedo was there as the diplomatic representative of Peru. With Quintana's odes as his model — and he doubtless had Gallege's heroic verse in mind also,— Olmedo has written a noble pæan to Bolívar, which bears witness to the magnitude of that warrior's whole military career and not merely to the significance of the two military exploits which the poet was asked to commemorate. The magnificent scenery of the American forests provides a background; the poet's reminiscences of Horace, Virgil and other classic writers supply no small part of the imagery abounding throughout the 800 verses of the Canto. Unfortunately, the supernatural is introduced without the support of a vision or dream and there is all too much hyperbole in the terms of praise lavished upon Bolívar and his generals. This latter fact was stressed by Bolívar himself in a letter to the poet, which shows that the Liberator was a man of surprising modesty in his conception of himself and of wonderful good taste in matters of literary criticism. The ode opens with an account of the thunderous effect of the victory of Junín and of the revelry in which the Spanish-American camp is engaged on the night following it. Suddenly there appears in the clouds the shade of the Inca, Huayna-Capac, who apostrophizes and vilifies the Spaniards and, prophesying the approaching victory of Ayacuchó, gives good counsel to Bolívar. When the Inca has ended his long address, the Virgins of the Sun surround him and break out into beautiful choral song. Then, as all are still listening in rapt wonder, the supernatural visitors disappear. Critics agree in finding the

ode a work of freshness and vigor, containing brilliant passages of an epic and a lyric nature.

JEREMIAH D. M. FORD.

LA VILLEMARQUÉ, lą vēl'mär'kā, **Théodore Claude Henri Hersart,** VICOMTE DE, French antiquary and Celtic scholar: b. Quimperlé, Brittany, 7 July 1815; d. there, 8 Dec. 1895. His first notable literary achievement was the collection and translation into French of the folksongs of Brittany, accompanied by their melodies. These were followed by the prose legends of the same district, and he next made an important contribution to the knowledge of Celtic verse of the 6th century, also translated into French, thereby establishing his reputation as an authority in that field. His further labors included the collection and translating of the prose legends of Ireland, Cambria and Brittany. He wrote a number of textbooks on the subject, and edited after the death of De Le Gonidec his 'Dictionnaire français-breton' (1847–50). Author of 'Barzas-Breiz' (2 vols., 1839; 6th ed., 1867); 'Contes populaires des anciens Bretons' (2 vols., 1842); 'Nouvelle grammaire bretonne' (1849); 'Poèms des bardes bretons du vi^e^ siècle' (1850); 'Notices des principeaux manuscrits des anciens Bretons' (1856); 'Légende celtique en Irelands, en Cambrie et en Bretagne' (1859); 'Myrdhinn ou l'Euchanteur Merlin' (1861); a Breton drama of the Middle Ages, 'Le Grande Mystére de Jésus' (1865); 'Poèmes bretons du moyen âge' (1879); 'La légende de Saint Gurthiern' (1880).

LA VITA NUOVA, lą vē'tą noo-ō'vą, ('The New Life'). 'La Vita Nouva' is the proper introduction of the reading and understanding of Dante's 'Divina Commedia' (q.v.). It is autobiographical, in that it purports to tell of his first meeting with Beatrice, when he was nine years of age, and how from that time "Love lorded it over his soul," how he saw her from time to time and with constantly increasing devotion attempted to keep secret his passion for her. He predicts her early death, and when his prediction is verified he portrays his intense sufferings. Then in an interlude he tells of the change that has taken place in his life, and in the last part he enlarges on his renewed love for the glorified Beatrice and his resolve to study so as to compose a suitable memorial for her. The first 17 chapters embody nine sonnets and a ballade, describing his youthful love and the physical charms of his bellissima donna. Then follow 11 chapters which glorify her spiritual beauties, with seven sonnets and three canzoni, which he calls "new rimes," wherein the tongue spoke of its own accord. Here he relates his deeds and thoughts. The poems in these chapters were composed between the age of 22 and 25. The next seven chapters tell of Beatrice's early death, and contain two canzoni and two sonnets expressing his grief. The last makes a false start and begins anew. Four chapters treat of his love for another lady, who had shown him compassion. Each of them leads up to a sonnet. Then his love for Beatrice reawakens and in three chapters, each ending with a sonnet, he relates his acts and thoughts till he is 35, when, according to his chronology, he had the experiences described in the comedy. In the last chapter he has a wonderful vision and promises to say of Beatrice "what was never said of any woman."

It will be seen that the prose narration of 'La Vita Nuova' is a setting for Dante's love-poems. It explains how each sonnet, ballade and canzone came to be written. Moreover, he appends to almost every one an elaborate and very artificial analysis of it. Dante when he was writing this work was studying the Commentaries of Saint Thomas Aquinas, and as that learned man often treated Aristotle's statements with a formal analysis, the poet followed his example. Boccaccio tells us that the poet regarded these as a blemish and wished that he had omitted them. They have annoyed many students of the Vita Nuova. Dante Gabriel Rossetti left them out of his translation.

Students of Dante have differed widely in their interpretation of the meaning of the title of the work, as well of the work itself. Some have regarded it as wholly symbolical and have understood Beatrice to be not a woman of flesh and blood but a type of mystical love. The same differences are found in the various commentaries of the Comedy. The truth is that Dante incorporated in the 'Vita Nuova' and in the 'Convito' ('The Banquet or Love-Feast') the minor poems which he wrote at various periods of his life. His earliest sonnet, written in 1283 when he was 18, is found in the third chapter, where he tells of having had a marvelous vision, and writes the sonnet, saluting all the "faithful of Love" and requesting that they expound it for him; he adds that many made answer, in many diverse ways. The sonnets and other lyrics in the first part of the 'Vita Nuova' are imitations of the Provençal troubadours; in the latter part, where Dante is supposed to have freed himself from this influence, the poems show more maturity, as of course they were written later. Dante in this brief composition, especially in the prose framework, betrays his recent study of Aristotle's 'Physics,' 'Metaphysics' and 'Ethics.' This is particularly evident in the pedantry of the style, which is artificial; and yet it breathes of that gay and beautiful Florence which was then coming to be one of the most prosperous cities of Italy. Dante's delineation of Beatrice has been the admiration of poets and artists for centuries. Charles Eliot Norton calls her "the most delightful personage in the daily picturesque life of Florence . . . the loveliest and most womanly woman of the Middle Ages."

'La Vita Nuova' was first printed in Florence in 1576, with reprints in 1723, 1877, and was copied in Pesaro 1529, in Venice 1840 and in Livorno 1843. It was published with English and Italian text by Luigi Ricci (London 1903). It was translated into English by Dante Gabriel Rossetti (London 1861); by Theodore Mertin (London 1862); by Charles Eliot Norton (Boston 1867; revised ed., 1892, with essays and notes); by Charles Stuart Boswell, with notes and introduction (London 1895). It was published with illustrations and with music by Alfred Mercer (New York 1914).

NATHAN HASKELL DOLE.

LA VOISIN, lą vwą'zăn' (real name CATHERINE MONVOISIN), French sorceress: d. Paris, 20 Feb. 1680. She was a fortune-teller, practising the most obnoxious arts of the pro-

fession, and was a midwife and medical practitioner of evil repute, but enjoyed a wide patronage among the grande dames of the court of Louis XIV. She also belonged to the coterie of professional poisoners whose activities at length became so notorious that in 1679 a royal commission was appointed to investigate and bring the offenders to justice. La Voisin was accused in particular of an attempt to poison Louise de La Valliére, mistress of Louis XIV, supposedly at the instigation of the Comtesse de Soissons. The sessions of the commission were for a time interrupted owing to the fact that its findings established guilt in such high quarters that exposure would have brought intolerable scandal upon the court, but while several of the chief offenders were shielded the commission resumed its work and many of the poisoners were convicted and executed. La Voisin was the first to be executed, first having been tortured. Consult Funck-Brentano, F., 'Le drame des poisons' (1900); Masson, A., 'La sorcellerie el la science des poisons au XVIIe siècle' (1903).

LAAGER, lä'gėr (Dutch, "a camp"), in South Africa, an encampment more or less fortified. The original Boer laager was an enclosure formed by the wagons of a traveling party for defense against enemies.

LAALAND, lä'länd, or **LOL'LAND,** an island of Denmark, in the Baltic Sea, between the islands of Falster and Langeland. Its greatest length, southeast to northwest, is 36 miles; breadth, varying from 9 miles to 17 miles; area, 447 square miles. It forms with Falster the district of Naribo. The surface, as implied by its name, meaning "low land," is so very little raised above the sea, the highest part being only 95 feet above sea-level, that parts of it along the coast are subject to frequent inundations, and for a considerable distance around it the water is so shallow that there are few places in which vessels drawing eight feet can approach it without danger. The soil, consisting generally of a heavy loam, is very fertile, and yields excellent crops of corn. Beans, hops and hemp are extensively grown. Varieties of hardwood timber are abundant. Pop. 71,280.

LAAR, lär, or **LAER, Peter van,** Dutch painter: b. Haarlem, Netherlands, 1590; d. sometime after 1658. Early in life he went to France, and subsequently visited Italy (1623). Here he mainly resided at Rome, where he became associated with Claude Lorraine, Poussin and Sandrart. He was small and crooked in stature and was thus called by the Italians "Bamboccio," and the comic scenes of rustic life painted in his style became known as "Bambocciads." He returned to Haarlem in 1639. He painted pastoral and banditti scenes, fairs and such like rural incidents, with spirited and vigorous brush, although his coloring is somewhat hard. A masterpiece of his, 'The Market Crier,' is in the gallery at Cassel. Other pictures of his are to be found at London, Paris, Dresden, Vienna and Munich. About 20 etchings from his hand are also extant, chiefly animals and landscape, which are spirited and finely executed

LAAS, läs, **Ernst,** German philosopher and pedagogue: b. Fürstenwalde, 16 June 1837; d. Strassburg, 16 June 1885. He studied at the Berlin University, at first theology then philosophy, under Trendelenburg. He became teacher (1860) at the Friedrich Gymnasium, then (1868) at the Wilhelms Gymnasium, and was given (1872) the degree of adjunct-professor of philosophy at the newly founded Strassburg University. He leaned toward empiricism which induced him to write 'Idealismus und Positivismus' (Berlin 1879–84), differing from Plato and Kant and more nearly following the English theories of Hume and Mill. He became a leading representative of positivism in Germany. As pedagogue an epoch-making work of his was 'Der deutsche Aufsatz in den obern gymnasialklassen' (Berlin 1868; 3d ed., by Imelmann, 1898). He wrote also 'Der deutsche Unterricht auf höheren Lehranstalten' (ib. 1872); 'Gymnasium und Realschule' (ib. 1875); 'Kants Analogien der Erfahrung' (ib. 1876). His 'Literarischer Nacklass' was edited by Kerry (Vienna 1887) and contains a short dissertation on pedagogy. Consult Hanisch, 'Der Positivismus von Ernst Laas' (Halle 1902); Gjurits, 'Die Erkenntriss Theorie des Ernst Laas' (Leipzig 1903); Kohn, P., 'Der Positivismus von Ernst Laas' (Bern 1907).

LABADIE, Jean de, French mystic and separarist: b. Bourg en Guienne, 13 Feb. 1610; d. Altona, Prussia, 13 Feb. 1674. He was educated at Bordeaux by the Jesuits and belonged to their order till 1639. He then quitted it, both because irregularities were detected in his conduct and he was found to have adopted many very peculiar and extravagant views. For these he was cited before the Parliament, but fled to Geneva. At a later period he returned to France and took up his residence in Amiens, whose bishop entrusted him with the visitation of the monasteries in his diocese. He also found a patron in the archbishop of Toulouse. His zealous opposition to some of the clergy subjected him again to persecution, and to escape from it he, in 1650, went over to the Reformed Church, but not finding himself so comfortable as he expected, he thought he had received a call to found an apostolic church for himself. He now became a preacher in Montauban, and afterward, on being obliged to leave it, in the town of Orange, from which he proceeded successively to Geneva, Middleburg and Amsterdam. In the last city he collected his followers into a distinct church or society under the name of Labadists. They were ana-Baptists, believed in the community of goods, held that marriage with the unregenerate was not binding, and that the children of the regenerate were born without original sin. Toleration being now denied him, he in 1670 proceeded to Herford, where the Palsgravine Elizabeth gave him protection. Driven thence by an imperial edict in 1672, he went first to Bremen and finally to Altona, where he held private meetings. See LABADISTS.

LABADISTS, followers of Jean de Labadie (q.v.), whose doctrines were a compound of mysticism and Calvinism. The sect was formed at Amsterdam in 1669. Its two most prominent defenders were Anna van Schurmann and Antoinette Bourignon. The Labadists, proposing to form a colony in America after failure in Surinam, S. A., sent over (1678–79) two of their number, Dankers

and Sluyter, to spy out the land and report. To these men, in their journal, translated into English and published by the Long Island Historical Society, we owe the existence of a most lively, not to say rather tart descriptions and criticisms of the Dutch and other folk in the middle colonies. The Labadists made a settlement, first in New York, which mismanaged, impoverished the home congregations and failed. Another was made later in Maryland which continued during a generation or two, but after the death in 1722 of Dankers, the leading spirit, was abandoned and the name and faith were lost among the dispersed. Consult the 'Journal of Our Voyage to Neuw Nederlandt, begun in the Name of the Lord and for His Glory.'

LABAND, lą'bänt, **Paul,** German jurist: b. Breslau, 24 May 1838. He studied law at Breslau, then Heidelberg and Berlin and was appointed private teacher (1861) of German law at Heidelberg. He was made adjunct-professor (1866) at Königsberg, and went (1872) in the same capacity to Strassburg. He devoted his work chiefly to state law and commercial law, on which subjects he wrote 'Das Budgetrecht nach den Bestimmungen der preussischen Verfassungsurkunde' (Berlin 1871); 'Das Finanzrecht des Deutschen Reichs' (in Hirth's *Annalen* 1873); 'Das Staatsrecht des Deutschen Reichs' (Tübingen 1876–82; 5th ed., 1901), his greatest work, of which he issued an abridged edition in Marquardsen's 'Handbuch des äffentlichen Rechts der Gegenwart' (Freiburg 1883; 6th ed., 1912). He was coeditor of *Zeitschrift für das gesamte Handelsrecht* from 1864, and founded (1886), with F. Stoerk, the *Archiv für äffentliches Recht,* and was long editor of *Deutsche Juristenzeitung.* 'Direkte Reichssteuern' was published 1908.

LABARUM, the name given from the time of Constantine to the imperial banner and intended to commemorate the vision of the cross in the sky which was the cause of the emperor's conversion. Eusebius has described it with much particularity. It was in the form of a long pike, crossed at a certain height by a beam, from which depended a banner richly embroidered with gold and adorned with precious stones. The pike was surmounted by a crown of gold, enclosing within it a monogram of the two initial letters of the name of Christ.

LABAT, Jean Baptiste, zhŏn bäp'tēst lä-bä, French Dominican missionary and traveler: b. Paris, 1664; d. there, 6 Jan. 1738. In 1693 he went as a missionary to the French Antilles, landed at Martinique and undertook the care of the parish of Macouba, which he superintended for two years, after which he was sent to Guadaloupe. His mathematical knowledge recommended him to the governor there, whom he accompanied during a tour through the island to assist him in selecting the points best adapted for works of defense. On his return to Martinique Labat received the office of *procureur-général* of the mission, in which an opportunity was afforded him of displaying the whole extent of his useful activity at the same time that he served the government by his mathematical knowledge. In 1705 he was sent to Europe on business of the order, and, landing at Cadiz, surveyed geometrically and scientifically the environs and the whole coast of Andalusia as far as Gibraltar. He returned to Paris in 1716. His 'Nouveau voyage aux iles de l'Amérique,' which has been translated into several languages, contains an account of the natural history, particularly of some of the smaller and less frequented islands; of their productions; the origin, customs, religion and governments of the inhabitants. He also published a 'Nouvelle relation de l'Afrique occidentale'; 'Voyage en Espagne et Italie'; 'Relation historique de l'Ethiopie occidentale'; 'Mémoires du chevalier d'Arvieu.'

LABBE, läb, **Philippe,** French Jesuit: b. Bourges, 10 July 1607; d. Paris, 25 March 1667. He taught philosophy and theology for a time at Bourges, but he was soon called to Paris where he spent his life in writing and research. He was quite a prolific writer, but his most prominent works are 'Sacrosancta concilia ad regiam editionem exacta' (Paris 1662–72, 18 vols., reprinted by Coletus, Venice 1728–32, 23 vols.), Gabriel Cossart edited the last 10 volumes after the author's death; 'Galliæ synodorum conciliorumque brevis et accurata historia' (Paris 1646); 'Historica synopsis conciliorum nationalium, provincialium,' etc. (1661). Chronological works of his are 'Concordia chronolgica' (Paris 1656); 'Abrégé chronologique de l'histoire sacrée et profane' (1663–66). On martyrology he wrote 'Hagiologium Franco-Galliæ excerptum ex antiquo martyrologia sanctæ obliatiæ Sancti Laurentii Biturecensis' (1643). On history he wrote 'Michælis Glycæ annales' (1660); 'Melanges curieux de plusieurs sujets rares' (1650); 'Bibliotheca bibliothecarum' (1664). Consult Michaud, 'Biographie universelle' (Paris 1843–65, Vol. XXII); Backer, 'Bibliothèque des écrivains de la Société de Jésus' (Liége 1869–76, Vol. II).

LABÉ, lą'bā, **Louise,** French poet: b. Parcieux, Ain, about 1526; d. Lyons, March 1566. Her true name was Charly and her father was a ropemaker, hence, on account of her beauty, she was called "la belle cordière." Her talent in acquiring foreign languages and her bold and dauntless disposition in her early years created wonder among her companions. While scarcely 16 years of age she took part, dressed as a cavalier, and in the name of Captain Loys, in the siege of Perpignon (1542). She married and devoted herself to poetry and music and her home became the rendezvous of poets, sages and artists; the street on which she lived was called, in 1607, rue de la Belle Cordière. Her poems, sonnets and elegies show Petrarch influence, but have lyric flights and a purity of expression of great rarity. We have of hers also an allegory in prose 'Le Débat de Folie et d'Amour.' The earliest editions of her works (1555 and later) are very rare; the latest appeared in Paris (1887). Consult Gonon, 'Documents historiques sur la vie et les mœurs de Louise Labé' (Lyons 1844); Laur, 'Louise Labé' (Strassburg 1873).

LABÉDOYÈRE, Charles Angélique Huchet, shārl ān-zhā-lēk hü-shā lā-bā-dwä-yār, COMTE DE, French general: b. Paris, 17 April 1786; d. there, 19 Aug. 1815. He entered the army in his 20th year and served with much distinction in Spain, Germany and elsewhere. Napoeon raised him to the rank of general of

division in 1815 and he fought with great courage at Waterloo. After the battle he hurried to Paris and there distinguished himself by his hostility to the Bourbons. On the capitulation of Paris he followed the army behind the Loire, but returning to Paris was taken, tried by court-martial and shot.

LABEL, Union. See UNION LABEL.

LABEO, lā'bā'ō, **Marcus Antistius,** Roman jurist. He was a man of unbending firmness of character, of strong republican sentiment, that turned him against Augustus, and of all-round training. His juridical works compose 400 volumes. Notable among them are found in the pandects of the Justinian 'Corpus Juris.' Seeking to extend the law he became the founder of a special juridical school, which was called the Proculeian, after his pupil Proculus. Consult Pernice, 'Marcus Antistius Labeo' (Halle 1873–92); Sohm-Ledlie, 'Institutes of Roman Law' (2d ed., Oxford 1901); Teuffel, 'Geschichte der römischen Literatur' (Vol. II, 6th ed., Leipzig 1910).

LABERIUS, lā'bā'rĭ-ŭs, **Decimus,** Roman knight and writer of mimes: b. 106 B.C.; d. 43 B.C. At the age of 60 he was commanded by Cæsar to appear on the stage in one of his own mimes, a disgrace for nobility which forfeited all titles, actors being of the lower and slave class. His prologue was filled with touching complaint of the insult and its wording has come down to us. The knightly honors lost by the act were later restored to him. Ribbeck has collected the existing fragments of some 40 mimes of his in 'Comicorum romanorum fragmenta' (3d ed., Leipzig 1898); they show original wit and keen expression.

LABEZARES, Guido DE, gwē-dō dā lā-bā-thā'rēs, Spanish adventurer: b. Bilbao, Spain, 1510; d. Manila, 1580. He began his career in South America, from which he made a voyage to Java and Sumatra, 1542. In 1550 he discovered the Bay Filipina, in Florida, and in the following year with Luna de Arellano visited and renamed the place Bay Santa Maria. He entered with Legaspi upon the project of conquering and converting the Philippine Islands. His success was complete in the matter of conquest, and in 1574 he was appointed governor-general of Manila. By means of new fortifications he so strengthened the place against the Chinese corsairs and the Dutch pirates that these were driven from the adjacent islands. In 1575 he took the position of lieutenant-governor, under a new governor-general from Spain and kept his position until his death.

LABIATAE. See MENTHACEÆ.

LABICHE, Eugène Marin, è-zhān mā-răn lā-bēsh, French dramatist: b. Paris, 5 May 1815; d. there, 23 Jan. 1888. He wrote, chiefly in collaboration with other authors, upward of 100 plays, many of them very successful. It was the qualities that he brought to the collaboration that made them a success. His long series included a few real comedies of character and manners. His farces and vaudevilles are distinguished by extravagant plots, crisp and sparkling dialogue which is at times a little broad, by the absence of the love element and admirable stage technique, and they form capital characterizations of the bourgeoisie of his time. In 1880 he was elected to the Academy and after that date ceased to write for the stage. His dramatic works were collected in 10 volumes (1878–79) and met with a notable and, for the author, an unexpected success. Among the best of them may be mentioned 'Frisette' (1846), the original of the famous farce, 'Box and Cox'; 'The Italian Straw Hat' (1857); 'Le Voyage de M. Perrichon' (1860), a delightful picture of middle-class vanity; 'Moi' (1864). Consult Matthews, 'French Dramatists' (1901).

LABLACHE, Luigi, loo-ē'jē lä-bläsh', operatic singer: b. Naples, Italy, 6 Dec. 1794; d. there, 23 Jan. 1858. He studied at the local Conservatorio della Pietá della Turchini under the guidance of Valesi and made his début as a bass singer, *buffo Napoletano,* in Fioravanti's 'Molinara.' Later he enlarged his repertoire by singing in grand opera, to which his voice, which was one of wonderful range and volume, was admirably adapted and appeared as Mercadente in 'Elisa and Claudio.' His reputation soon extended over Italy. In his 20th year, when the triumph of Rossini was at its height, he stood forth as the greatest interpreter of that master, and reached the summit of his fame. A medal was struck off in his honor at Vienna in 1825. For the next 17 years he annually appeared in Italian opera in London, Paris and Saint Petersburg. He was the singing-master of Queen Victoria. He was equally admirable in comic and serious operas and the school of music which he opened in Paris had considerable success in handing on the traditions of his style. Don Giovanni and Leporello were his greatest parts.

LABOR. Definition.— Labor may be defined as the physical or mental effort of human beings for the attainment of some object other than the pleasure of the effort itself. Simple as this definition is there is scarcely a word in it but what has been the subject of discussion. The popular use of the word labor restricts it to those who engage in manual toil, but this is of course too narrow. Any scientific definition must include mental effort. In modern industry brains are needed as well as muscle. Men must organize the productive forces and direct their employment along chosen lines. Upon their ability quite as much as upon the skill and strength of the manual workers, and indeed to an even greater degree, depends the success of modern enterprise. To-day this concept is fully recognized and not even the most extreme socialist would deny the productive character of mental effort.

Labor is generally limited in popular usage to that of human beings but not all economists have so defined it. Adam Smith spoke of "labouring cattle," and said more than once that "nature labours along with man." J. R. McCulloch, who always exaggerated or distorted any half-truth of his intellectual father, Adam Smith, went so far as to say that no distinction should be made between the operations of domestic animals, of machinery, of nature and of man. Labor, he said, is "any sort of action or co-operation, whether performed by man, the lower animals, machinery, or natural agents, that tends to bring about any desirable result." Such a definition is, however, confusing rather

than helpful. To-day practically all economists restrict the term labor to that of human beings. Labor means human labor.

More difficult of restriction within the ring-fence of a definition is the next concept. Some writers have denied the term labor to any exertions which yield pleasure or are undertaken for the sake of the pleasure accompanying them. Painful effort only is labor. Thus W. S. Jevous wrote, "Labor, I should say, is any painful exertion of mind or body undergone partly or wholly with a view to future good." And yet even Jevous pointed out that most forms of labor, after the initial irksomeness had been overcome, yielded distinct pleasure to the worker, a principle which the French socialist Founier had earlier made the basis of his scheme for the organization of labor. It is impossible thus to limit the term, for it would exclude some of the highest forms of creative art or literature or even handicraft and confine it only to distasteful or painful occupations. Indeed the same kind of exertion might at one time be called labor and at another time be denied that name. The whole psychology of labor is moreover involved in this limitation of the idea. Labor is regarded as a curse. But the purpose of economic progress and of human invention is, or should be, to lighten the burden upon labor, to associate with the performance of necessary tasks a pleasure and pride in workmanship. In its highest aspect labor should be regarded as a privilege rather than a curse.

The final notion involved in this definition is that the labor is performed for the sake of some ulterior object or some useful purpose. Quite aside from the question of whether pleasureable effort is entitled to the name of labor, it is contended that it must be productive. The distinction was early made between productive and unproductive labor. The Physiocrats, for instance, insisted that only the work of agriculture was productive, the labors of manufacturers, merchants and others being sterile. Even Adam Smith thought that the work of servants was unproductive. The modern conception, however, is that any effort which satisfies a want or creates a utility is productive — that of the actor, the fireman or the judge, as well as that of the farmer, the miner, the cotton-spinner or the locomotive engineer. Effort directed toward the rendering of some intangible or transient pleasure is held to be productive as well as that engaged in extractive industry or in fashioning some durable object. In no case does man create anything; he can never do more than change the form or the place of material things. It is, therefore, as impossible to draw a line of distinction between the labor of those engaged in raising grain and those employed in serving bread at the table as it is to make a distinction between manual and mental effort.

Free and Slave Labor.— Thus far only free labor has been considered, but historically probably more of the work of the world has been performed by unfree labor than by free. Slavery has existed as far back as historical records go into the dim past. Indeed it has been asserted, rather paradoxically, that the institution of human slavery marked the greatest step forward that had yet been made in human progress. From an ethical standpoint slavery was certainly an improvement over cannibalism, and from an economic standpoint it marked a great advance because now for the first time there was provided a fund of labor that could be directed to steady and arduous toil. Until this time man had lived by hunting and fishing primarily; but now settled agriculture became possible, permanent homes were established, cattle domesticated and some accumulation of property began. Primitive man did not work willingly and the compulsion of slavery furnished the training school in which the human race painfully and slowly learned the lessons of labor.

The question has been raised and much debated as to whether the course of human progress has been from a state of original freedom and equality to one of inequality and bondage, or the reverse. The view was formerly widely held that the original tribal organization early gave place to a closer union in the village community or mark. Freedom, equality of rank and possessions, and in the case of the mark communal ownership and cultivation of the land characterized these early communities. As a result of conquest and other forces this original state of freedom gave way to one of inequality, both political and economic, which has persisted to this day. Modern democracy and socialism are simply efforts to restore the original and natural heritage of mankind. About 1880 however another school developed, in England and France especially, which denied the accuracy of the historical data upon which the mark theory had been built up, and gave a different explanation of the existing economic constitution of society and the position of labor. These writers denied that early societies had enjoyed freedom and communal ownership of the land, but insisted that as far back as history can be traced there had always existed a system of primitive serfdom and private property. The evolution of human progress has therefore been from a condition of slavery and inequality to one of increasing freedom and equality of opportunity and possessions. Labor has progressed from bondage to freedom and is ever moving further in the same direction.

Perhaps the best evidence of the growing dignity and importance, as well as the well-being of labor, is the esteem in which it has been held by economists. In this respect there has been steady progress. By the Greeks and Romans, if we may accept as typical the utterances of their leading philosophers, labor was held in low esteem. Artisans belonged to the lowest caste, and labor was held to be degrading. Slavery was generally practised and of course did not help to elevate the status of the free laborer. The later Roman writers, however, condemned this institution on economic grounds. The spread of Christianity led also to moral condemnation, and during the Middle Ages slavery was generally modified into serfdom, according to which the serf was bound to the soil but was personally free. Although the Church taught the equality and brotherhood of man, these doctrines did not ameliorate his condition during this period. Men's chief intellectual interests were theological rather than economic, war absorbed the energies of the ruling classes, and the primitive methods of agriculture, manufactures and transportation as well as insecurity of life and

property prevented the working classes from making any economic advance.

Economic Views.— The Renaissance and the discovery of the New World made far-reaching changes in economic institutions and thought which were reflected in the conceptions of labor. By the Mercantilists labor was assigned a position of considerable importance; according to Locke (1690) labor is the almost exclusive source of value, for, he wrote, "it is labour indeed that puts the difference of value on everything." But the Mercantilists after all emphasized trade and money rather than labor. The Physiocrats introduced the distinction between productive and unproductive labor; according to them the only productive labor was that which added something material to the world's stock of goods. They therefore confined the term to agricultural laborers and the extractive industries; merchants and manufacturers were unproductive or sterile. Emphasis was laid by them therefore more upon the direction of labor than upon its well-being. Land and the bounty of nature was the real centre of the Physiocratic system.

Adam Smith placed labor in the very arch of his economic philosophy; his book on 'The Wealth of Nations' begins with a discussion of labor as the source of the annual wealth of a nation, and the first chapter describes the division of labor as a means of increasing production. The opening sentence of this book is, "The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniences of life." Labor is both the cause of value and its measure. In spite of the high position thus assigned labor in Smith's economic system, the practical results in the hands of his followers were bad. He had insisted upon the need of greater freedom of enterprise and of contract and this doctrine was erected into the principle of *laissez-faire* by the classical school. Competition was given full sway and all restrictive barriers were swept away. This meant the exploitation and degradation of labor. Ricardo and Malthus register in their writings the hopeless attitude of economists as to the impossibility of improving the condition of labor, a view which persists even in John Stuart Mill.

A reaction against this position soon set in. The Socialists insisted upon the rights of labor and the injustice of existing methods of distribution. The changes wrought by the Industrial Revolution brought many industrial readjustments and serious economic ills such as poverty, unemployment and crises. Increasing attention began to be given to the subject of distribution instead of production or exchange. Social reformers interested themselves in the practical work of abolishing specific abuses. The labor movement became too important to ignore, and not only has it secured an increasing amount of space in recent economic literature, but it has been treated with greater sympathy and understanding. In many of our colleges and universities courses in labor problems are given, and an increasing amount of study is being devoted to the subject.

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ERNEST L. BOGART,
Professor of Economics, University of Illinois.

LABOR, American Federation of. See AMERICAN FEDERATION OF LABOR.

LABOR, Department of. A government department of the United States established by Act of Congress, approved 4 March 1913, "to foster, promote, and develop the welfare of the wage earners of the United States, to improve their working conditions, and to advance their opportunities for profitable employment." Before the passage of this act the affairs of this department were administered by the Bureau of Labor, a subdepartment of the Department of Commerce and Labor. Originally the Bureau of Labor was a part of the Department of the Interior, but at the creation of the new department by the Congress, 11 Feb. 1903, the bureau was transferred. It was organized in 1885, and Carroll D. Wright, who had been very successful as chief of the Bureau of Statistics in Massachusetts, was appointed Commissioner of Labor. At the end of three years Commissioner Wright had made such signal success in the new department that the bureau was changed to the Department of Labor, with independent functions. Under the Act of 1913 the bureaus of labor, immigration and naturalization and the children's bureau were included in the new department. The Bureau of Labor is now the Bureau of Labor Statistics, and the heads of the divisions are known as commissioners, with the exception of the heads of the children's bureau and the bureau of information, who are entitled chiefs. The head of the department is a secretary, with last rank among the members of the Cabinet. There is also an assistant secretary of the department. The Bureau of Labor Statistics conducts investigations in all disputes between capital and labor and issues a bimonthly bulletin reviewing the condition of labor in the United States and abroad. The Bureau of Immigration maintains local offices at the several ports of entry, and through these it administers the immigration laws and kindred statutes. The Bureau of Naturalization has charge of the returns from the clerks of the United States courts throughout the land who issue declarations of intention certificates and final naturalization certificates to applicants for naturalization. The Children's Bureau deals with all matters affecting child-life, infant mortality, birth rate, orphanage, juvenile delinquents, dangerous occupations for children, children's diseases and child labor, especially the State laws in regard to the latter evil. Consult 'Annual Reports' of the Secretary of Labor. See COMMERCE, DEPARTMENT OF.

LABOR BUREAU. See LABOR, DEPARTMENT OF.

LABOR BUREAUS. Nearly every State in the Union has a labor bureau, or department of labor, the oldest being that of Massachusetts, organized in 1869. Several of the State bureaus, particularly those of New York and Connecticut, maintain free employment agencies. These State bureaus have been kept remarkably

free from partisan politics, and they have been decidedly successful in the settling of labor disputes and in preventing strikes and lockouts. The chief functions delegated to be performed by the State bureaus are assistance in bettering the condition of toilers, investigating complaints of ill-treatment, grievances, etc., to furnish information as a basis for enlightened legislation, to keep a record of the labor supply and labor condition in the State and to inform the general public of the results of its work. In some States the administration of the labor laws was committed to the bureaus, as also administering employment offices, compensation laws, etc. These organizations proved so successful that European nations soon followed the American example. In 1891 France organized a bureau of labor and in 1892 Germany followed with a labor commission. In 1893 a labor department under the direction of a commission for labor was instituted in England. Austria, Italy, Sweden, New Zealand, New South Wales, and Canada have since established similar bureaus. Consult Wright, 'The Workings of the Department of Labor,' and 'The Value and Influence of Labor Statistics,' in 'Monographs on Social Economics' (Washington 1901); 'American Year Book' (annual); *American Labor Legislation Review* (1911, I, No. 2, 123–134; No. 3, 59–68; No. 4, 61–104).

LABOR CHURCH, a movement started in England to bring religious work into the labor movement. John Trevor was the founder (1891), the first Labor Church service opening in Charlton Town Hall, Manchester. The growth of the movement was such that, at a conference held in 1893, the Labor Church Union was organized with 10 churches represented, and by 1894 there were 24 labor churches in England and Scotland. Five principles were adopted at the inauguration declaring religion part of the labor movement, that it is no class movement or class religion, but non-sectarian, etc. In 1903 a restatement of principles was drawn up embodying the conditions of the former one and declaring the labor movement, besides its religious activity, includes improvement of social conditions, development of personal character, both essential to "emancipation from moral and social bondage," and therefore insists on the study of the economic and moral forces of society. Over 30 labor churches were eventually established, but since 1907 the movement apparently has lost vitality.

LABOR COLONIES, or agricultural communities, are common in Europe but almost unknown in the United States. They are maintained for the purpose of giving employment and training to individuals who, on account of misfortune or inefficiency, find it difficult to earn a living. In Holland there are four of these labor colonies, at Wilhelmsoord, Frederiksoord, Wilhelminasoord, which have been established for three-quarters of a century. They occupy 5,000 acres of land and have a membership of over 2,000. At La Chalmelle, France, is a colony established in 1892. It occupies 370 acres of land and has 300 colonists. In Germany there are nearly 40 colonies all established since 1882. New Zealand has a government farm of 1,000 acres. In Belgium are three colonies which are practically penal institutions for vagrants and beggars. There are several colonies in England and Scotland, and in the United States three small colonies have been established by the Salvation Army, one each in Colorado, California and Ohio. The most successful is the Colorado colony which has 150 members. The colony system in all the European countries is practically communism under government control, all the colonies being conducted on the co-operative plan. Consult 'Encyclopædia of Social Reform,' edited by Bliss (1908).

LABOR AND COMMERCE, Departments of. See COMMERCE, DEPARTMENT OF; LABOR, DEPARTMENT OF; LABOR DEPARTMENTS, FOREIGN.

LABOR CONGRESS, an assemblage, either national or international, of representatives of organized labor. The first attempt to form an international organization of workers was made by a group of continental exiles at a conference held in London in 1847, in which Karl Marx took part. The Communist League was that formed, which issued Marx' and Engel's famous manifesto just before the revolution of 1848, but the organization disappeared in the succeeding reaction. In 1866 the first International Labor Congress was held at Geneva, Switzerland, about 60 delegates being present from England, France, Germany, Holland and Switzerland. The results of this meeting were the condemnation of the industrial employment of women, the advocating of technical education and the organization of mutual credit associations. At the congress of 1869, held at Basel, Switzerland, labor representatives were in attendance from Russia, Austria, Germany, France, England, Spain, Italy and Switzerland. This assembly by a vote of 54 to 4 declared that landed property should be abolished. Other similar congresses were held at Dresden, 1871; The Hague, 1872; Paris, 1886; Berlin, 1891, and Zürich, 1897.

Two International Socialist-Labor Congresses were held in Paris in 1889, one, the Marxest, by 400 delegates, and the other, the Possiblist, by 600 delegates. In 1891 a Socialist-Labor Congress was held at Brussels, at which 400 delegates were present from nearly every country in the world, including Canada and the United States. Among the topics discussed were the eight-hour day, militarism, universal suffrage and legislative protection of labor. At the Congress of 1893 at Zürich, Switzerland, 385 delegates were present, and admission was denied to all avowed anarchists. The congress, now assuming definite organization, met in London in 1896 and arranged to meet every four years thereafter. The anarchists were again denied admission, and resolutions were adopted opposing standing armies, advocating the nationalization of land and the socialization of industry.

The next meeting of the International Socialist-Labor Congress was held in Paris in 1900, when the assembly discussed the laws regulating strikes and boycotts and favored the abolition of the capitalistic class. Resolutions were passed favoring a fixed minimum wage and the nationalization of mines. Subsequent meetings have been held at Amsterdam (1904), Stuttgart (1907), Copenhagen (1910) and Stockholm (1917). Of this organization which meets every four years there is a standing com-

mittee known as the International Socialist Bureau, which meets annually.

Various national labor congresses are held in several countries, particularly in England, where an annual convention has been held since 1868. Congresses of anarchists convening under the disguise of labor have been held at intervals in Lyons, Havre, Brussels, Barcelona and other cities. See also UNIONISM; SOCIALISM.

LABOR DAY, in the United States, the first Monday in September, a legal holiday in all the States and District of Columbia, Porto Rico, Hawaii and Alaska. The celebration of this day was inaugurated by the Knights of Labor, who in 1882 held a parade in New York, and again in 1884, when a resolution by George R. Lloyd, one of the Knights of Labor, was passed to hold all parades on that day. Workingmen of all organizations then began agitation to have the day made a legal holiday, and on 15 March 1887 the first law to that effect was passed in Colorado. New York, New Jersey and Massachusetts soon followed this example. The day is celebrated by parades and by meetings addressed by prominent labor leaders. In Europe the celebration of the first of May as Labor Day was begun in 1890 with a demonstration in favor of the eight-hour day; it was at that time and for a few years later much feared and violently opposed by the various governments, and there were many clashes between the police and soldiers and the workingmen. It is now usually celebrated without trouble. In the United States May Day is celebrated by the Socialist-Labor party, but there is no attempt to cease work on that day.

LABOR DEPARTMENTS, Foreign. The development of early labor legislation in all countries soon pointed out the fact that labor laws are useless unless properly enforced by special authorities. Accordingly most countries sooner or later created one or more departments to deal with the ever-increasing number of labor laws. The functions of these departments is first of all to administer all existing labor laws and then to conduct investigations that will lay foundations for future legislation. Under their administrative functions labor departments appoint inspectors to enforce workshop regulations, regulate social insurance laws, conduct labor exchanges to help unemployed and serve as or create boards to settle industrial disputes or fix wages and hours of labor. Under their functions as investigators labor departments conduct research, gather statistical data, issue reports and often draft laws. In the larger European countries the departments are under the guidance of ministers of labor, while in smaller countries they are attached to other ministries.

In England factory inspectors to enforce workshop regulations were for the first time provided for under the Factory Act of 1833. They were placed under the supervision of the Secretary of State for Home Affairs. At present the Home Office has a factory inspection department supervised by an under-secretary. Other labor laws before the war were administered by the Labor Department of the Board of Trade, established in 1893. The department administered the Labor Exchanges Act of 1909, the Trade Boards Act of 1909, and the National Unemployment Insurance Acts of 1911 and 1916. The Board of Trade also issued a monthly paper, and annual and special reports on wages, hours and labor in other countries. During the war its powers and authorities were transferred to a Ministry of Labor. Health insurance is regulated by boards of insurance commissioners.

In Germany the enforcement of the labor law is mainly left to the individual states. Each state has a labor or inspection bureau that enforces workshop regulations with the help of the police authorities. Imperial supervision is very slight. In Prussia the factory inspection department is under the Ministry of Commerce and Industry. At the head of the insurance system is the Imperial Insurance Office assisted by district and local insurance offices. The above departments also conduct investigations and research work.

In France a Bureau of Inspection of Labor was for the first time established in 1841. In 1891 the Superior Council of Labor, representing employers, employees and the government, was founded to investigate labor conditions and act as adviser to the government in labor problems. At the present time the Inspection Service, like the Superior Council, is a part of the Ministry of Labor, established in 1906, at the head of which is a member of the Cabinet. Accident insurance is regulated by a special bureau and old-age pensions are under the supervision of a Superior Council in the Ministry of Labor.

Austrian labor laws are administered by the Ministry of Commerce and at the head of the inspection service is a central industrial inspector. In Holland a Bureau of Labor was established in the Department of Public Works in 1916 to institute unemployment insurance and supervise labor exchanges. In Belgium there is a Ministry of Industry and Labor, under which there is a Labor Office. The latter was organized in 1895. It administers all labor laws, investigates labor problems, inspects factories and supervises insurance. In Italy a Labor Department was established in 1902, in Switzerland in 1886, in Denmark in 1859, Sweden in 1902 and in Spain in 1903.

SELIG PERLMAN.

LABOR EXCHANGES, a name erroneously applied to employment bureaus. It was also a term given to a class of institutions founded by the followers of Robert Owen (q.v.) in 1832–35. These were designed to bring about an exchange of products of labor without the intervention of money. Many stores were founded for the purchase and sale of commodities for "labor notes," the amount of time spent in producing a commodity being the basis of its value. Different classes of labor were all valued alike. The plan was soon found impracticable.

LABOR LEGISLATION. The term "Labor Legislation" is now used to cover a broad field of lawmaking for the benefit of wage earners in particular and of society in general. It includes the factory acts of earlier days, but is much broader in its scope.

History.— In the United States labor legislation has passed through several stages of transformation. In the early period of our nation the propertyless man was viewed with

suspicion and contempt, and coercive laws were passed for the capture and virtual enslavement of the "shiftless." Men who worked for wages received scant consideration in law. In the 20's and 30's of the 19th century propertyless men were clothed with full rights of citizenship. Legislation for their benefit soon began, taking the form of abolition of imprisonment for debt, of indenture and finally of slavery, and providing wage and homestead exemptions, and free schools. Following the Civil War labor and capital entered the stage of definite class consciousness and the contest between them became sharp and bitter. From the legislatures labor secured favorable laws; from the courts capital secured favorable decisons which declared such laws unconsitutional because taking property without due process of law and violating freedom of contract. The limit in this stage was reached in 1885 when the court (In re Jacobs) voided a law of New York designed to end sweating, because the act would force the laborer "from his home and its hallowed associations and beneficent influences, to ply his trade elsewhere." The next stage, that of the public welfare, received definite recognition in 1898 when the Supreme Court held (Holden v. Hardy) that a law which on its face was class legislation or deprived of property without due process of law was yet a valid exercise of the police power because it was for the good of society at large that the freedom of both employer and employee be restricted.

The last stage is still in the process of developing out of the preceding. It avoids "class legislation" by making a "reasonable classification" of persons and industries. Equality before the law is maintained by treating alike all within any given class. If an employer thinks that his bargaining power has been unduly curtailed and that of the employee unduly enlarged, it is his privilege to change classes and secure the larger privileges. For the employee to do the same is not yet equally easy. Neither is he quite on an equality in disposing of his property, which is his labor. When a man engages to sell a farm and delivers titles to the same he may be held to strict accountability for the performance of the contract and required to pay damage for failure to do so. But here every item of property is transferable from himself. When a man engages to sell his labor he is selling something now recognized as property, but it is not a commodity; it cannot be separated from himself and is closely identified with his liberty. To compel the performance of a labor contract would mean slavery. On the other hand, the propertyless man is at a decided disadvantage in bargaining for the delivery of his labor. He is free to engage for 12 hours a day or refuse the job. The employer is free to take him for 10 hours a day or wait for another man. But the employer can much better afford to wait for another man than the employee can afford to go without his dinner. Their equality in bargaining is not real. Society now says that the nominal freedom of both should be restricted to the end that the laborer may be more secure in the possession of his property right to work and the social welfare be enlarged. This is the basic principle of present day labor legislation under the police power.

State and Federal Laws.— Labor legislation in the United States is covered largely by the States though there is a considerable body of national laws affecting labor. The right of Congress in such matters is based on its power of control over interstate commerce.

Among the earliest laws were those affecting wages. The first mechanic's lien law was passed by New York in 1830 and similar laws have been passed by all the States. Such laws aim to protect the laborer by making the goods, structure or land on which he works security for his pay. Railroads and public works are now covered by these laws. State and Federal laws also make wages a preferred claim in receiverships and in administrations due to bankruptcy or death. Following close upon the abolition of imprisonment for debt (beginning with Kentucky in 1821) came the exemption of wages from attachment for debt. This is now the law in every State. The amount of protection varies, some States exempting by days (30 to 60), others by amounts ($20 to $100). There is also considerable lack of uniformity in the persons protected. Some exempt "all laborers, mechanics and day laborers," others all "householders," or "resident debtors" or "all who support themselves and their families by the labor of their hands" (Wis.). There are also exemptions of homesteads and of tools in all the States, the amounts varying from $500 to $5,000. Some States forbid the assignment of future wages, while others put very strict limitations on such assignments.

A good many laws govern indirectly the amount of wages. Except as affecting women there is no general law providing a minimum wage. The National and State governments regulate employment on their public works, generally prescribing that the customary wages shall be paid, in some cases fixing a minimum. In recent years several States have forbidden payment in store checks or truck; a few require cash payments. Two-thirds of the States regulate the time of payment, a great many requiring settlements at least twice a month, some weekly. Some of these laws have been declared unconstitutional by the courts but most of them have been upheld. Many States require payment on the premises, a few during working hours, and a few forbid payment in saloons. Several States have the "mine run" law, forbidding the screening of coal before it is weighed. A dozen States regulate "docking" or deductions in the way of fines.

A great many laborers receive a part of their pay in houses or "furnishings." Legislation aimed to regulate houses furnished by employers is only in the formative stage. There are three types of legislation on truck stores: (1) Laws that seek to eliminate such payments in certain industries; (2) permitting the system, but regulating the prices; and (3) eliminating the coercion of employees to patronize company stores.

Laws regulating hours of labor have a direct bearing on wages. The first law of the kind was passed by Massachusetts in 1842 and made 10 hours a working day in factories for children under 12. In 1847 the law was extended to women. Several States followed this example, but no enforceable law was passed before 1879. In 1895 the Illinois Supreme Court declared void an 8-hour law for women

on the ground that it unduly limited the freedom of contract. In 1908 the Oregon 10-hour law for women was upheld by the United States Supreme Court, and in 1915 the 8-hour law. By 1915 there were only seven States with no restrictions on hours of labor for women, and these States have few women workers. The laws vary considerably, but most of them fix daily and weekly maximum hours in the principal industrial occupations, agriculture and domestic service being excepted. They are based on the health of the worker and the public welfare, but have an important effect on wages. A few States recognize that the determination of what is necessary for the health of the worker and for the public welfare is not a legislative question and leave it to their commissions. Laws regulating the hours for men are fragmentary. Most of them relate to public or semi-public works. In 1840 President Van Buren, by executive order, fixed the 10-hour day in the navy yards. A Congressional law of 1868 (amended 1892 and 1912) fixes the 8-hour day for laborers on public works. Over half the States and many cities now have similar laws. The first law of the kind applying to private industry was that of Illinois in 1867. It applied only in the absence of a contract and was not really enforceable. Over half the States and the United States now have laws shortening the hours for employees on steam and electric railways and a dozen or more protect miners with 8-hour laws. Mississippi (1912) and Oregon (1913) have 10-hour laws for factories. The hours in transportation are arranged by "runs"—a maximum of 16 hours, with 8 hours of rest before starting again. This applies particularly to engineers and conductors. Many States have similar laws applying to operators of street cars. Telegraphers, train dispatchers and signalmen in continuous employment are commonly limited to eight hours. Under the extreme pressure of a strike called by the trainmen for 4 Sept. 1916, Congress passed a law (signed 3 September) fixing eight hours as a day's work after 1 Jan. 1917, for men engaged in interstate transportation and allowing extra pay for overtime. The same act provided for a commission to observe the effects of the law and report to Congress. The constitutionality of such laws has been contended many times, but they have generally been upheld as a valid exercise of the police power for the public welfare. The traveling public has a vital interest in having trains handled by men not so worn out by long hours of toil that they cannot assure them of a reasonable degree of safety. However, this particular law unquestionably was a wage law. The most notable decision sustaining such laws was that of Holden v. Hardy upholding the 8-hour day law of Utah for miners. Agricultural laborers are still practically untouched by such legislation.

Partial protection against cheap labor is furnished in the Chinese Exclusion Act (1882) and the act of 1885 (amended 1907) forbidding the importation of laborers under contract. The Arizona law requiring employers employing 20 or more workers to see that at least 80 per cent were citizens was declared unconstitutional on the basis of unjust discrimination, but the New York law limiting employment on public works to citizens was upheld.

Competition of convict labor has been regarded as a serious menace by free labor. Four States now forbid the employment of convicts where there would be such competition. Five prohibit the employment of convicts in certain industries, several provide for the employment of their convicts in certain industries, and five seek to distribute them among the various industries. Several seek to regulate the sale of convict-made goods. The agitation for a Federal law on the subject has not yet met with success.

Recognition of the Union.—There is virtually no law forbidding the organization of public employees, but executive orders discourage it. In private industry unions could secure legal recognition by incorporating, but they have little to gain and much to lose by this form of recognition, hence they have sought it in other ways. At least one-third of the States have passed laws forbidding employers to discriminate against members of unions. A similar law of the United States (Erdman Act) and several of the State laws have been declared void because unduly limiting the freedom of contract. (Case of Coppage v. Kansas). Texas and several other States have exempted labor unions from the operation of their anti-trust laws, and Congress made a slight modification of the Sherman Law in favor of the unions after the adverse decision in the case of the Danbury hatters. Over 40 States provide for the registration of union labels and protect them against counterfeiting. A few States have legalized the peaceful boycott, whether declared by unions or collections of individuals.

Special Legislation.—The so-called "factory acts" of the United States vary greatly in scope and effectiveness. Some date as far back as the seventies, but most of them are much more recent.

The first law requiring the reporting of industrial accidents was passed by Massachusetts in 1886, the first covering occupational disease by California in 1911. The reporting of accidents has gradually spread to other States, but the laws vary greatly and are not altogether satisfactory. Sixteen States now require the reporting of occupational diseases and some of the laws are very comprehensive.

Laws excluding certain persons from particular industries are becoming common. The age limit, educational and physical qualifications for children in many occupations are gradually being raised. Women are excluded from a few industries in some States, in four States from all industries for some weeks before and after maternity confinement. There are many laws requiring certain physical and technical qualifications of men for particular industries. In general the physical qualifications cover a reasonable immunity from disease common in the vocation, freedom from diseases easily communicated to others, and strength sufficient for the performance of one's duty. Ohio and Pennsylvania require monthly examinations of workers exposed to poisonous lead salts. The technical qualifications range all the way from such as may be required of aeronauts and electricians in one State to those expected of plumbers and chauffeurs in 22 States. These requirements are made primarily

for the public safety, secondarily for the good of the worker.

A few substances have been outlawed. A national law (1912) virtually prohibits the manufacture of matches containing white phosphorus. Several States forbid the manufacture and sale of alcoholic drinks. This was made national by constitutional amendment in 1919. Massachusetts forbids the use of a shuttle touched by the lips of the operator, but no State forbids the use of the same blowpipe in glass industries by more than one person.

Safety is aimed at in many drastic laws requiring the fencing of dangerous machinery and provision for stopping of machinery at once, forbidding the running of such machines without guards or cleaning or repairing while in motion. Laws designed for safety also require certain amounts of space; they call for the screening of stairways and elevator shafts, and require inspection of steam boilers. Laws for protection against fire are found in all the States. Some of them comprise a code in themselves, going into great details about things ranging from the material used in constructing a building to how often the floors shall be swept and how the gas shall be turned off.

The health of a factory worker is fairly well guarded in some cases, very poorly in others. Few States have any legislation on lighting, heat and humidity. Half the States require ventilation though most of the laws are too vague to be of much value. The Illinois law of 1909 sets a good standard. Some States forbid sleeping in workrooms and make certain regulations for cleanliness. It was difficult to regulate "sweating" after the decision of the Jacobs case, but attempts are made through licenses and inspection. All the mining States have more or less comprehensive laws for safety in underground works, but the provisions for health are less adequate.

Employment in transportation is regulated by both national and State laws. Navigation is controlled mainly by national laws. The act of 1915 sought to abolish virtual slavery among seamen by taking away the right to enforce contracts by imprisonment and provided for health and safety under regulations comparable to the factory acts. All the States seek to regulate employment in railroads, but Federal laws supersede in cases involving interstate commerce. Both seek to make full provision for the protection of employees and the safety of the public. There has been a sharp contest over the "full crew" law which fixes the number of employees in proportion to the kind and size of the train. Twenty States have enacted such laws over the protests of the railway managers on the ground of useless expense, but the laws have been sustained by the courts as police regulations. In Missouri this law was defeated by popular vote.

Many of the earlier laws were incomplete in definition or inclusion. Lack of responsibility for enforcement, lack of responsibility for violation, inadequate penalties, failure to develop standards and lack of responsiveness to changing conditions were common defects of most of the legislations of most of the States. Of late the tendency has been to remedy these defects by defining in the law the end aimed at and leaving to commissions large discretionary powers in defining the means necessary and the methods to be followed.

In recent years a great deal of legislation has centred around the question of liability for accidents. The old common-law rule was that responsibility for an accident must be fixed on some individual. If the employer could show that he had exercised ordinary care, he was exempt. Even when he had violated a law in failing to provide safe machinery, if it could be shown that the laborer knew of the danger, the courts held that he had assumed the risk. Or if the accident was due to the negligence of another employee (fellow-servant), this released the employer of all responsibility. In recent years a hard fight has been waged to change this law and make the industry bear the cost of accidents to its workers, just as it bears the accidents to its machinery. Georgia led the way as far back as 1856 in abolishing the fellow-servant rule on railways, but so far has been followed by only half the States. In 1910 New York shifted the burden of proof to the employer. A natural corollary of such legislation is some provision for compensation without lawsuit. By the opening of this century some of the European governments had enacted laws requiring definite compensations to workers in cases of accident. Some countries put the whole burden on the employers, who take out insurance in regular companies or in government bonds and pass the cost on to the consumers. The first law looking to this end in the United States was passed by Maryland in 1902 as a sort of co-operative insurance law. This and several more advanced laws by other States were declared unconstitutional. In 1908 Congress made a beginning for public employees and since 1911 no less than 32 States have legislated on the subject. In order to avoid the rock of unconstitutionality, most of the statutes have been made elective, but coupled with the abolition of the employers' old points of refuge, such as fellow-servant rule, contributory negligence and assumption of risk. New York amended her constitution and made the law compulsory. Five States provide State insurance funds, but employers may elect to carry their insurance in stock or mutual companies.

Health insurance is being agitated and the American Association for Labor Legislation has drafted a model (1915) for introduction in State legislatures, but so far no State has passed this or any bill like it.

Except for some kinds of public service liability and old age, pensions are practically unknown in the United States. National, State and municipal governments provide pensions for several classes of employees, especially soldiers, sailors, policemen, firemen and teachers. Massachusetts and Wisconsin offer State assistance for voluntary old age pensions and Alaska and Arizona have recently legislated on the subject. For pensions for women see MOTHERS' PENSIONS.

Unemployment.— The problem of unemployment is attracting more and more attention. No State requires or even offers any insurance against it. Twenty-three States and a dozen or more municipalities maintain employment exchanges, some of which have placed a great many applicants. At least seven States require licenses of private employment agencies, and

Idaho forbids the running of such agencies for profit. Emergency work is provided by several municipalities and by Idaho. The latter offers work on the public roads to citizens who have resided in the State six months. In the course of the World War the national government greatly enlarged its activity in bringing workers and jobs together.

Administrative Agencies.—Massachusetts created the first bureau of labor in 1869. Congress followed with the National Bureau of Labor in 1884, the Department of Commerce and Labor in 1903, and the Department of Labor in 1913. Nearly every State now has such a bureau. The chief duty of such bureaus is to collect and distribute statistical information relating to the various fields of labor and to the development of productive industries. In some States they are expected to enforce the important labor laws. In recent years there has been a decided movement for the creation of industrial commissions, uniting in one authority the administration of such related laws as those dealing with workmen's compensation, factory inspection, etc. Five States—Colorado, Indiana, Montana, Nevada and New York—went over to this system in 1915. The entrusting of discretionary power to these commissions has gone a long way in remedying early laws, especially where they were defective in definition and inclusion or not responsive to changing conditions. For example, Congress now merely demands safety of the railroads and leaves it to the Interstate Commerce Commission to determine what devices are necessary to meet this requirement. See CHILD LABOR; LABOR MOVEMENT; LABOR UNIONS.

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DAVID Y. THOMAS,
Professor of History and Political Science, University of Arkansas.

LABOR LEGISLATION, Foreign. Labor legislation is an attempt to lessen or abolish the evils resulting from the factory system in industry. The rapid advent of modern capitalism and the broadening of markets enormously increased the keenness of competition among employers, compelling the latter to exploit labor to the fullest possible extent in order to lessen the cost of production. As a result the state was sooner or later obliged to step in and protect the worker from the consequences of his unequal bargaining power with the employer, especially the women and child workers. At present each of the more important countries in Europe and elsewhere possesses some sort of system of labor laws, the scope and extent of which varies with the development of the factory system in each country.

Great Britain.—Great Britain, which is the country of origin of modern capitalism, is also the country of origin of modern labor legislation. The first important factory law here was passed in 1802 and is known as the "Health and Morals Act." This act forbids the employment of children under nine years of age, restricts the working hours of children to 12 a day and provides for sanitary conditions and education for the latter. The act was hardly enforced, and like a similar act of 1819, remained a dead letter. It was not until 1833 that an extensive and strict factory law passed through Parliament. The Factory Act of 1833 applied to all textile establishments and provided for a system of inspection by a specially trained group of men. It again forbade the work of children under nine years of age, and limited the number of hours for children under 13 to nine a day or 48 a week, and for persons under 18 to 12 a day and 69 a week. Night work was entirely prohibited and schooling was provided for. This notable law was followed by a series of other laws, wider in scope and stricter in enforcement, the most important of which are the Laws of 1844 and 1847, the first extending the protection to women and the second establishing a 10-hour day for children and women. In 1878 the Factory Consolidation Act was passed, which systematized and strengthened all previous labor laws. Since then many labor laws were passed extending protection to workingmen. In 1901 work was prohibited for children under 11 years of age. There is also a vast body of regulation in regard to sanitation and safety in the factories. Night work and Sunday labor for women and children under 18 is entirely prohibited.

No less remarkable is the development of the labor laws in England dealing with the legalization of labor unions and with industrial arbitration. Up to 1824 English labor unions were illegal under the common law and statutes of Parliament. In 1824–25 all Combination Laws previously passed against unions were repealed and freedom of association was granted to a limited extent. In 1871 the Trade Union Act was passed, which declared unions not to be illegal combinations in restraint of trade. This act was followed in 1875 by the Conspiracy and Protection of Property Act, which freed labor from the conspiracy laws in their criminal aspects and gave some protection to union funds. In 1906 the Trade Disputes Act freed unions from civil conspiracy laws and gave them complete exemption from responsibility for damages as a result of acts committed by laborers. Peaceful picketing, strikes, boycotts and blacklists were made legal. The first important Conciliation Act was passed in 1896. According to this act the Board of Trade was given certain powers to help bring about conciliation between employers and employees. In 1911 an industrial national council of conciliation was organized. A notable step toward arbitration was taken by the Trade Boards Act of 1909. The latter provides for the establishment of wage boards by the order of the Board of Trade to make minimum wage laws for employees working in industries where wages are very low. This law was especially directed against sweating industries. In 1909 also was passed the Labor Exchanges Act, according to which labor exchanges were organized all over the country to furnish workers with information in regard to employment and help to distribute them all over the country.

The development of social insurance in England is quite recent. Various laws recognizing employers' liability were passed beginning with 1880. These laws, however, were narrow in scope and voluntary in character. The first extensive piece of social legislation was only accomplished with the passage in 1906 of a Workmen's Compensation Act. This act did away with all previous legislation and reorganized accident insurance on a new basis, extending it to workmen in almost every kind of employment. According to the act employees in event of disability exceeding seven days are entitled to one-half the average weekly wage. In case of permanent disability the compensation continues until the death of the employee. The law also provides for funeral and medical expenses and for dependents in case of death. The Act of 1906 was followed by the Old-Age Pensions Act of 1908, which provides that all persons over 70, having an annual income less than $153, are entitled to a pension varying with the yearly income of the recipient and not exceeding $3.12 a week. Money for this purpose is raised by general taxation. In 1911 the system of social insurance was made complete by the passage of the National Insurance Act, which provides for sickness and unemployment insurance for some trades. Sickness and invalidity insurance was made compulsory for all workmen doing manual labor and for other persons whose income do not exceed $800 a year. The law is administered by local benefit societies and contributions come from the employer, employee and the state. It provides for medical aid and for sickness, invalidity, and maternity benefits, the amount varying with sex or age. As far as unemployment is concerned the government instituted an experimental scheme of insurance against unemployment in the building and engineering trades. According to the law all laborers above 16 in these trades are required to be insured against unemployment. The system is supported by joint contribution from employees and employers and a government subsidy.

Germany.— Labor legislation in Germany came later than in England, owing to the belated rise of the factory system. The first important German labor law was passed by Prussia in 1839 and dealt mainly with the restriction of hours of labor of children. The employment of children under nine years of age was entirely prohibited, and the working day of children under 16 was limited to 10 hours. The law was a complete failure, as it was not enforced. In 1853 another child labor law was passed, raising the minimum working age of children to 12 years and restricting the working day of children under 14 to six hours. The law also provides for the education of the children and for factory inspectors, but like similar laws in other German states and the law of 1839 it remained a dead letter. In 1869 an Industrial Code was adopted by the North German Federation, putting on the statute books Prussian regulations of earlier laws.

The rapid development of German industry after the Franco-Prussian War of 1870 greatly increased the factory evils. As a result great demands began to be made for uniform labor laws and strict factory inspection. In 1878 the inspection of factories were made compulsory throughout the empire. In 1891 a uniform industrial code was passed for the entire German Empire. Children under 13 years of age were prohibited to work in factories and children above 13 could work only if they had received a primary education. The code also regulates the employment of women, limiting their working day to 10 hours, as well as that of children under 16, and prohibiting night work. The law also provides for Sunday rest and sanitation in the factories. Since 1891 the Industrial Code has been amended in many ways. The Industrial Code expressly legalizes strikes and lockouts and allows the organization of labor unions for the improvement of economic conditions. In 1890 Germany passed a general law establishing industrial courts throughout the empire to settle industrial disputes. The courts have an equal number of representatives from labor and capital and are presided over by a chairman who represents neither.

By far the greatest progress in labor legislation was made by Germany in the field of social insurance. The latter is used by the Imperial German government as a check on the ever-growing influence of Social-Democracy among the workingmen. The first important insurance act was the Sickness Insurance Law, passed in 1883. It provides for sickness benefits, free medical aid and maternity and funeral benefits. The funds are sustained by the employers and employees. the former contributing one-third and the latter two-thirds of the fund, and are administered by boards representing both sides. According to provisions of the law sickness benefits begin on the third day and amount usually to one-half of the wage. The Accident Insurance Law was passed in 1884. It provides that accident funds are to be contributed entirely by employers and to be administered by associations of employers engaged in the same general trades or industries. The latter fix rates, classify trades and pass on safety requirements. Compensation for the first 13 weeks comes from the sick fund. After that compensation comes from the accident fund. In case of total disability a workman gets 50 per cent of his wages the first four weeks and later 66⅔ per cent. In case of partial disability, he receives a pension in proportion to the degree of disablement. In case of death funeral benefits are paid and dependents are given a liberal pension. The Compulsory Old-Age and Invalidity Insurance Law was passed in 1889. According to it all wage earners above 16 must insure against old age and invalidity. Liberal contributions are also made by capital and the state. Pensions usually amount to two-thirds of the average wage of the class to which the worker belongs. As far as unemployment insurance is concerned, some beginnings have been made by a few municipalities, but a national system against unemployment is still under consideration. All the original insurance laws have been many times amended until they now include practically all workers. In 1911 all insurance laws were revised and combined into one law.

France.— The first half of the 19th century brought the industrial revolution to France and together with it all the evils of the factory system. Very little protective legislation, however, was enacted before 1841, but in that

year, owing to strong public pressure, a child labor law was passed declaring that the minimum age of children working in factories, mills and workshops should be eight and limiting the working day of children between eight and 12 years of age to eight hours and between 12 and 16 to 12 hours. The law was hardly enforced, as factory inspection was inadequate. The Revolution of 1848 brought more labor legislation to France. Under the influence of Louis Blanc, national workshops providing everybody with work were established, but failed. In 1848 a law was also passed establishing a 12-hour labor day all over France. The law was not enforced. In 1874 a law was enacted reorganizing factory legislation. It limited the age of child workers to 12 years, restricted the working day of children from 12 to 16 years of age to 12 hours, and prohibited night work for children under 16 and for women under 21. It also established sanitary requirements and instituted an inspection service. In 1892 the law was replaced by another law more liberal in scope. A law of 1893 deals with the protection of health and safety of employees and requires that all accidents be reported and investigated. In 1900 the Act of 1848 for a 12-hour day was amended and put into force. In factories where women and children work the working day is limited to 10 hours. In 1915 a minimum wage law was enacted, according to which wages for women are to be fixed by wage boards.

In the field of legislation in regard to legalization of unions France was rather slow. A law passed in 1791 prohibited labor organizations altogether. This law remained in power till 1884, when the Syndicate Law, making labor organizations and strikes lawful, was passed. Yet by 1909 an order was issued prohibiting strikes on public works and restricting the right of public employees to organize. In 1887 the government took a favorable step toward unionism by establishing labor exchanges, which serve as employment bureaus and headquarters for unions. In the field of arbitration France has progressed considerably through the help of industrial courts or *conseil de prud'hommes,* originated at Lyons and since then spread over France and Europe. These courts represent equally labor and capital and settle quickly and cheaply all disputes.

The idea of social insurance in France is quite old, but it is by no means as well developed as in Germany or even England. During the 18th century accident and sickness insurance was conducted by trade guilds, but after the Revolution these activities were taken over by voluntary societies. At present sickness benefits are entirely in the hands of friendly societies, which since about 1850 are closely regulated by the government. The benefit funds are mainly supplied by the members of the societies, though sometimes contributions are made by employers. Accident insurance, like sickness insurance, is also voluntary. In 1898 employers were made liable for accidents which disable their employees and at present most of the employers carry insurance for their workmen. Old-age insurance was made compulsory for most of the industries in 1910. Contributions come from the employer and employees, besides a subsidy being granted by the state. Granting of pensions usually starts at the age of 55, but they may be granted earlier if the worker becomes infirm.

Austria.— Protective labor legislation in Austria began as early as 1853 and factory inspection was instituted in 1883. The Industrial Code of 1907 provides for sanitation in factories, for an 11-hour day in all industrial establishments and for protection of child workers. Children under the age of 12 are prohibited from labor and children from 12 to 14 can work only eight hours a day. Accident insurance was made compulsory in 1887 and sickness insurance in 1888. These laws closely resemble the German laws. In 1906 a compulsory old-age and invalidity law was passed. It provides for pensions to widows and orphans of the insured and applies only to salaried employees.

Switzerland.— In Switzerland up to 1877 most of the labor laws were passed by the several cantons, but in that year a uniform federal factory law was enacted. This law, amended and supplemented several times, regulated child labor, hours of work and conditions. In 1914 it was repealed and replaced by an industrial code. The latter provides for the health and safety of employees. It established a 10-hour day (nine hours on Saturday) and restricts the amount of overtime work. Night and Sunday work are with some exceptions entirely prohibited. Children under 14 years of age may not be employed in factories and children under 16 cannot work more than 10 hours a day. The law also established voluntary conciliation boards to settle industrial disputes and provided for inspectors under cantonal and federal supervision. In 1911 a law was passed, which provides for voluntary sickness and compulsory accident insurance. The insurance includes medical aid and indemnity for time lost.

Belgium and Holland.— Belgium has an advanced system of labor regulation dating from 1813. Industrial courts were established in 1859. Since 1850 many measures in regard to workmen's insurance were passed. The insurance covers health, accidents, invalidity and old age. In 1901 the Ghent system of unemployment insurance was introduced in the city of Ghent. According to this plan the government subsidizes labor unions furnishing unemployment insurance. The system has spread rapidly over Belgium and other important countries of Europe. Holland's system of protective legislation dates since 1874 and provides for mediation and arbitration, regulation of work of women and children and supervision of sanitation. In 1901 compulsory accident insurance was established by law in almost all branches of industry. Holland has also taken important steps toward sickness and old age insurance and has introduced the Ghent system of unemployment insurance.

Scandinavia.— Sweden introduced a comprehensive scheme of labor laws in 1901 and additional laws have been passed since then. They provide for mediation and arbitration, protection of women and children, placing of workmen on land, etc. Social insurance was started in 1891, and in 1916 an entirely new compensation law was passed. It embraces all wage earners in all industries and provides

for medical aid, cash benefits in case of temporary disability and pension payments in case of permanent disability. Denmark passed its basic labor law in 1901. A permanent arbitration court representing both labor and capital was established in 1910. In 1913 a law was passed establishing a central labor exchange in Copenhagen with many branch exchanges all over the country. An old-age pension system was passed in 1891, sickness insurance was established in 1892 and accident insurance in 1898. In 1916 all compensation laws were revised and combined into one. Norway's important labor legislation dates since 1872. Accident insurance began in 1895 and sickness insurance in 1909.

Australia and New Zealand.—Australia is highly advanced in the field of labor legislation owing to the fact that the governments of the commonwealth and of all the states except Victoria are in control of labor ministries. The labor laws for which Australia is most famous are the compulsory arbitration laws. Compulsory arbitration was first adopted by New South Wales in 1901 and is now present in all the states. The Commonwealth Compulsory Arbitration Act was passed in 1904. It provides for a court with a president as its sole member whose decisions are final. Strikes and lockouts are strictly forbidden. Australia also has an eight-hour law and most of the states have passed minimum wage laws and compensation insurance. In New Zealand a Compulsory Arbitration Act was passed in 1894 as a result of the great strikes of 1890–93. In 1908 the law was changed and now provides for the appointment of commissioners of conciliation who in turn appoint advisers nominated by both parties. Registered unions are prohibited from striking under penalty. Either side may demand arbitration and the decisions are binding. Like Australia, New Zealand has an eight-hour day and laws protecting women and children in the factories. It also has a broad system of social insurance, including old-age and mothers' pensions.

Other Countries.— Most of the European countries possess some system of labor regulation and inspection. Since 1880 many laws protecting children and women have been passed in Russia. Before the Revolution Russia also possessed a fairly advanced system of factory inspection. In Italy many important labor laws have been passed since 1886, in Spain since 1900. The most important labor law of Canada is the Industrial Disputes Investigation Act, passed in 1907 after the great Alberta mining strike of 1906. The object of the act is to prevent strikes and lockouts in mines and industries connected with public utilities. When a strike is threatened, the government appoints a board of conciliation and investigation, having one capitalist, one labor representative and a chairman appointed by the latter or by the government. Before the report of the board is published strikes are forbidden under penalty, but after publication each side is free to act. The idea is to arouse public opinion against the side which refuses arbitration. Practically all of the countries possess more or less of a system of workmen's compensation. In Italy a law of 1898 makes insurance against accidents compulsory at the expense of employers. At the same time an old-age invalidity insurance law was enacted.

International Association for Labor Legislation.— Considerable impetus to labor legislation in Europe and America was given by the International Association for Labor Legislation. The association was organized at the Paris Exposition in 1900 and has branches in most of the European countries and in the United States. Biennial conventions are held in Switzerland, where uniform laws are drafted and recommended to the different countries. After such laws are adopted by a country, they become equivalent to a treaty.

The World War greatly added to the importance of labor legislation and administration. For instance, the work performed by labor exchanges had formerly interested mainly social reformers and wage earners; the war made it a cornerstone of the nation's industrial efficiency. For industrial labor suddenly became a rare and precious commodity. In the first rush of necessity governments and employers permitted a lowering of the existing standards of labor protection. Soon, however, investigations proved that the enforcement of the existing labor laws was not so much a matter of social justice as one of a continuous industrial efficiency. The inflow of millions of women into the munitions industries greatly broadened the scope of factory inspection. Thus it led to the creation of posts of special welfare supervisors. Another side of labor legislation which the war strongly developed was that which deals with the prevention and settlement of industrial disputes. Special tribunals as well as special administrative organs were created with this in view.

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SELIG PERLMAN,

Department of Political Economy, University of Wisconsin.

LABOR MOVEMENT IN AMERICA, The. "Labor Movement" is a term applied to the conscious, united and persistent efforts of the laboring people to improve their economic and social conditions. "Laboring people" has come to mean those who work for wages. Organizations of laborers have existed from time immemorial. The guilds of the Middle Ages were exclusive and monopolistic, caring nothing for other workers. This form appeared among the shoemakers in Massachusetts in 1648, organized mainly for the purpose of controlling inferior workmen. Like organizations appeared in other industries from time to time, always local in character and more or less temporary. Several strikes for higher wages occurred before the close of the 18th century.

History.—The birth of modern trade unionism may be assigned to the closing years of the 18th century, though it never attained the dignity of a movement until the 19th was well under way. The cordwainers (Philadelphia 1789 and 1794), the shipwrights, carpenters and tailors (New York 1803, 1806) were the pioneers.

The labor movement grew out of the industrial revolution which brought about a change in the manner and means of production and so caused a wider separation between master and journeyman. The change is well illustrated in the shoe industry. At first the master made only a "bespoke" product and employed journeymen to meet this demand. Then came the capitalists, "cunning men from the East," who stocked up and held shoes for chance purchasers. Changes of this character, which brought about the factory system, were especially noteworthy 1820–40, but were noticeable before this. This stocking up and the competition between the capitalists for sales necessitated a reduction of wages. The labor movement came as a protest against such conditions.

While the aims of the labor organizations were industrial in its earlier stages the movement assumed a political character and a workingmen's party appeared in various places in the later twenties and early thirties. No doubt this was largely due to the fact that the suffrage was a new instrument in the hands of the propertyless laboring man. As a separate body the labor party accomplished little that was good while doing some harm to the cause. It was impossible to make a complete divorce between labor and politics, for many of its demands could be realized only through legislation. But to insist upon the passage of certain laws was one thing, to enter politics as a party was another. The experiment in politics brought out this truth, though its significance has been lost a few times since, in labor organizations and in recent years, efforts have been made to launch a labor party. The organization soon learned that better results could be secured by formulating their demands and then leaving it to the members to support the party which promised and performed most.

In the platforms of the later twenties and early thirties may be found the causes of the movement and the ends sought. They demand the abolition of special privileges to the strong and the giving of protection to the weak. The specific demands were free schools, the abolition of imprisonment for debt, of the militia system and of payment in store checks, the enactment of a mechanic's lien law, cheaper legal procedure, equal taxation, no chartered monopolies, no inflation of the currency, the leasing of the public lands to actual settlers and the taxation of unearned increments in town property.

The specific demands have varied from time to time, but the essential principles have remained the same, though stated at times in more passionate language. Throughout the whole movement most emphasis has been laid upon a shorter working day and better pay. The working day of the farm, "from sun to sun," had been carried over into the industries and even extended there, for in some industries men worked longer in winter than did the farmer. The weapons used to remedy the situation were organization and the strike, backed up by appeal to public sentiment.

Trade unionism reached the "coming out" stage with the organization of the Mechanic's Union of Trade Associations at Philadelphia in 1827. Others soon followed. After a brief flirtation with politics they settled down to industrial and social questions. The rising tide of prosperity and the mounting cost of living in the first half of the fourth decade stimulated them to feverish activity. Though it was the conditions which are most apparent in factories that caused unrest, it was not the factory workers, but skilled artisans who took the lead. By 1836 the Trades' Union at Philadelphia consisted of 48 societies, two of which had over 900 members and four others over 700 each. The journeymen tailors, cordwainers, printers and hatters represented the skilled workers, the cotton spinners and "female operatives," the factory workers. The printers included at least 24 cities in their organization. The pioneer national union was the National Trades' Union, which met at New York in 1834. This may be taken as the progenitor of the American Federation of to-day.

The Right to Organize.—The right of laborers to organize has never been questioned. What they may do after organization has always been a disputed question, for our courts have generally held that a good many things which may be legally done by individuals may not be done by combinations of individuals.

The first thing for the laborers to do was to establish the right to strike and make collective bargains. In this they have always been at a decided disadvantage. A dozen men may combine as a corporation for the purpose of doing business and employing others. It then becomes in law a person. It may employ only a dozen men. No act of the corporation (composed of a dozen men) to reduce wages is illegal. Each of the 12 employees may work or refuse to work, but if they combine in such action then legal difficulties may arise. Such difficulties were swept away in England in a series of acts beginning in 1824 and ending in 1906.

In America strikes ("turnouts") occurred every few years throughout the first quarter of the 19th century. Sometimes they were for shorter hours, generally for higher pay. In 1803 the striking sailors at New York used intimidation against strikebreakers. "Scab" and "rat" came into use, and occasionally lists of "rats" were published. The elementary form of picketing and the boycott also appeared.

The answer of the employers was appeal to the courts and organization. In 1806 eight strikers were fined at Philadelphia, and three years later DeWitt Clinton, mayor of New York, fined 24. The charge was conspiracy to raise wages and the court held that this was illegal even when there was no intimidation or violence. Several other like prosecutions followed. In 1834 the carpet manufacturers of Thompsonville, Conn., even secured judgment for $15,000 damages. The defendants not being able to pay were put in jail. In 1836 certain manufacturers at New York combined and agreed not to meet the demands of their striking employees; they further agreed not to employ anybody who was a member of Trades' Union Society or any other society whose object was to dictate wages. The grand jury re-

fused to indict these employers for conspiracy, but the striking tailors were fined $50 to $150 each.

These prosecutions were one of the factors, though not the only one and probably not the most important, which led to the decline of the labor movement. Organization had been overdone and the unions were quarreling with each other. There had already been a tendency toward politics. After the conviction of the tailors a mass meeting was held in the park to protest against it, and a State convention was called. The tide of discontent and the spirit of reform were rising throughout the nation and every kind of "ism" was going into politics. One labor candidate was elected to Congress, but the laboring men ruined their cause by admitting outsiders and championing various issues which had no direct bearing upon their objective. The various parties now played for the labor vote, the Whigs supporting the tariff as a protection to labor instead of capital and Tammany Hall turning to the workingmen instead of the wealthy class. "Thus," says Professor Commons, "did the labor movement of the thirties furnish to the 19th century both its philosophy of labor's priority over property and its secret of maneuvering labor to the advantage of capital."

Some results worth while had been accomplished: (1) A mechanic's lien law; (2) the abolition of imprisonment for debt, and (3) improvement of the public schools, had all come by legislative enactment, mainly because of the pressure of the laboring class. The appeal to public sentiment was strong, both through the platform and the press. Between 1820 and 1837 no less than 68 papers were projected. The best known of these were the *Mechanic's Free Press* (Philadelphia 1828), the *Workingman's Advocate* (New York 1829) and *The Man* (New York 1835), the last two under the editorship of George H. Evans. The denunciation of employers in the papers was direct, often bitter. But no legislative enactment was secured for the shorter day and very little was accomplished by agreement, but an executive order was secured for the 10-hour day from President Van Buren. More important perhaps was the cessation of fines for mere strikes. The same year that the tailors were fined the cordwainers were acquitted and in 1842 the Massachusetts Supreme Court established the right of men to quit work for the improvement of their condition. However, this did not establish any general right to quit work. Men might quit work to benefit themselves but not to injure others, and prosecutions for conspiracy continued in the fifties, especially where acts of violence were committed.

The lean years following the panic of 1837 saw little activity in the labor world. The rising prices following the partial business revival of 1843 witnessed some sporadic union activity. Factory operatives now began to take part in the movement, but their real significance belongs to a later period.

The period of the forties is one of the most loquacious in all our history. It was a "hot air" period and the heat of discussion germinated a great many issues, some of which have taken root. The old democracy had stood for a negative, *laissez-faire* policy. The call now was for a constructive democracy, one that would take hold and guide and help. There were two avenues of approach, that of higher idealism along which came the humanitarians and transcendentalists; the lower, on which the workers traveled. The former called for justice; the latter demanded rights. Gradually, especially after the panic of 1837, the transcendentalists got down to earth and sought to experience the feelings of labor. It assumed concrete form in the experiment at Brook Farm (q.v.) and the various efforts to establish Fourierism (q.v.) and Owenism. The transcendentalists soon vanished into thin air, but not before they had served a useful purpose. They opened the eyes of society as they had not been opened before to the grievances of labor, and touched a chord of sympathy; in the laboring class they at least touched the chord of aspiration and caused them to think a little more of duties if no less of rights. One of the most powerful agents in bringing about these results and a partial fusion of the two ideals was Horace Greeley.

The Homestead Act.—The most significant concrete thing in the labor movement of this period was the agitation which led to the passage of the Homestead Act. Among the natural rights ascribed to man in the Declaration of Independence was the right to "life, liberty, and the pursuit of happiness." In the thirties men had begun to look upon the right to pursue happiness as illusory, unless they also had the right to the road of pursuit. Men had as much right to land as to air. George Henry Evans now gathered up these ideas and evolved out of them a constructive policy. Wages, he said, were low and strikes were futile because the Western lands were bottled up and the vacant lands of the East were in the hands of speculators. If these lands were opened up, enough settlers would be drawn off to cause a rise in wages. In 1844, mainly through his activity, the National Reformers' Association was organized for the purpose of restoring man to his "natural right to land," and proceeded to demand of candidates a pledge to vote for a homestead law. At first Greeley opposed, holding that the ills of labor were social, not political, and that they were to be remedied by mutual agreement in a congress made up of representatives of employers and employees. The first "Industrial Congress" met at New York in October 1845. It stood for land reform and a 10-hour law. It continued to meet at intervals until 1856, but Greeley soon saw the futility of its efforts and came out for legislative action (1845), endorsing in particular the homestead idea. In 1848 he introduced such a bill in Congress. In 1852 Andrew Johnson introduced another. Ten years later it became a law.

Along with this went the movement to exempt homesteads from execution for debt, the first response to which came from Wisconsin in 1847, though similar laws had been enacted in several Southern States prior to this. Entailment or absolute inalienability was demanded by some, but voluntary alienation under mortgage was allowed everywhere.

Weary of waiting on philosophy and legislation the workers again resorted to strikes fol-

lowing the period of 1843, generally with success. However, the *Phalanx* denounced the "degrading bitterness and insufficency of this attempt at a compromise" of the rights of laboring men, holding that it did not "change the terms of dependence on masters and only converted them from 12 and 14 hours to 10 hour slaves." The only remedy was "to associate and combine" and secure ownership of "the land on which they live and the tools and machinery with which they work."

The influence of the Fourierists appears in the action of a convention representing several unions. It endorsed the homestead proposition, the 10-hour movement and the Workingmen's Protection Union which was working out distributive co-operation and rejected a proposal looking to political action. All efforts to secure a 10-hour law failed in Massachusetts, but they were successful in New Hampshire (1847), Pennsylvania (1848), New Jersey (1857), Ohio (1852) and Rhode Island (1853). However, the laws were not enforced. The movement for co-operation (q.v.) had some tangible results and by 1838, 769 co-operative stores had been started. About this time the movement began to decline and by the opening of the Civil War the stores had all disappeared or passed into private ownership. The failure was due to two things, bad management and greed for gain. The Boston Tailors' Association Union (1849) was organized for productive co-operation, but lasted only a few years.

Nationalization of the unions was hardly possible until industries were enlarged and distribution more rapid and general. This transformation was under way in the fifties. Railroads were being built and disconnected lines were being consolidated into greater systems. Epoch-making inventions, such as the sewing-machine, the reaper and mower and shoe machinery had already been registered in the Patent Office. Expansion and consolidation were going on. In 1840 there were 1,240 cotton factories with $51,000,000 capital, employing 72,000 workers. In 1850 the number had been reduced to 1,074, the capital increased to $76,000,000 and the workers to 95,000. The woolen and other industries were undergoing the same change. Many local unions were formed, several of larger scope. At least two national organizations still in existence date from this period, the International Typographical Union (1850) and the Iron Moulders (1839). The revolution in industry, instead of being checked, was rather stimulated by the Civil War the next decade. Associations of manufacturers were common and business was assuming the monopolistic type. The absence of so many workers on the firing line weakened the laboring classes and their organization was strengthened but little while the war lasted, though one union, that of the cigar-makers, dates from 1864. The increased use of woman, child and convict labor, the influx of immigrants, especially from southern Europe, and the freeing of the negroes, whose low standards were said by the workers to misfit him for "a fair competition of the white worker," and multiplication of machinery, all added to the perplexities of the laboring men and made organization inevitable.

The most significant demand of this period was the 8-hour day. The basic philosophy of this demand was somewhat different from that for the 10-hour day. As formulated by Ora Stewart, a Boston mechanic, this philosophy held that this increase of the worker's leisure would raise the standard of living. This would cause a rise in wages and an increased use of machinery. The carrying out of the program would, he said, eliminate the capitalists for the rise in wages would make the capitalist and laborer one. The specific program naturally arising from such a philosophy called for the establishment of co-operative production and distribution and of emigration to the Western lands as a remedy for unemployment; it demanded the abolition of monopoly, of the contract system of convict labor, educational advantages suitable for laboring people and better housing. Gresham's law, said Stewart, operated in the labor world as surely as in money and these measures should be taken to guard against it.

A natural corollary of this last was opposition to convict labor, Chinese immigration and the coming of Europeans under contract. Even the recently freed negro was an object of fear, and demands were made for some kind of protective regulations. With the help of the humanitarians the convict lease system has been practically abolished and the working of convicts under contract considerably modified. The agitation for Chinese exclusion was finally successful in 1882 and other Asiatics except Japanese were included in 1916. A law against the importation of laborers under contract was passed in 1885, amended in 1907.

Coincident with some of the significant changes in production was the development of the middleman who pushed in as a connecting link between producer of raw materials and the manufacturer and the manufacturer and the consumer. This was particularly noticeable 1860–80. The same period also saw the capitalization of intangible wealth, good will, trade marks, franchises, etc., interference with which was a violation of property rights. Intangible capital became an effective security for banking and credit business through which the merchant could control the products of laborer and employer. Such a situation was of first importance to the farmers and laborers and contributed largely to the first greenback movement, which aimed to take this control out of the hands of the middleman. The proposition for legal tender currency convertible into bonds and bonds convertible into legal tender, as backed by several labor unions, was stoutly resisted then, even when limited in quantity and based on 3 per cent bonds, and has since been condemned by historians and economists.

Consolidation and concentration moved on apace. Between 1870 and 1905 the factory, mechanical and neighborhood industries a little more than doubled in number, but the number of workmen trebled, the value of the products quadrupled and the capital was multiplied by six. The number of establishments making agricultural implements declined (1870–1900) 66 per cent, but the capital per establishment rose from $16,780 to $220,571 and the products from $25,080 to $141,549. The close of the 19th century and the opening of the 20th witnessed the appearance of the giant corporations. This in itself destroyed the personal nexus be-

tween the employer and employee. More than that, there was a union of industries through interlocking stockholders and directors. The result was that capital, instead of passing into the hands of laborers and farmers, itself became the master or the ally of big business. A very small part of the demand of labor in the sixties was granted at the request of business in 1913 in the Federal reserve banks; of the farmers to the farmers in the rural credit bill of 1916.

The answer of labor to concentration and to the rising prices of the war period was organization. By September 1864 the local unions had over 200,000 members, and then nationalization began with the organization of the International Industrial Assembly of North America. The preamble to the constitution of this union gives causes of unions and expresses the feelings of that age. It may also be said to give the basic motives of unionism from that day to this, though their expression has been modified. Capital is denounced as "aggressive" and seeking to "enslave the working masses." It "has assumed to itself the right to own and control labor for the accomplishment of its own greedy and selfish ends, regardless of the laws of nature, and of nature's God." Experience has demonstrated that "if the dignity of labor is to be preserved, it must be done by our united action." Therefore, "believing the truth of the following maxims, 'that they who would be free must strike the first blow,' 'that in union there is strength' and 'that self-preservation is the first law of nature,' and calling upon God to witness the rectitude of our intentions, we do ordain and establish the following constitution."

The objects of the order were the social and moral elevation of the workers, the correction of abuses so as to secure to them their rights and privileges. This was to be secured through promoting organization and the adjustment of difficulties between employers and employees. Other orders soon grew more specific in their demands and brought into the foreground such questions as the recognition of the union, the closed shop, limitations on apprenticeship, immigration and the importation of labor under contract, prison labor, hours, wages, the boycott, the blacklist, picketing, sanitation and safety. All of these questions have been prominent since the Civil War, some of them all the time, others at particular periods.

Organizations now multiplied and grew rapidly. The National Labor Union was formed in 1866 and by 1868 had 640,000 members. It now boldly entered politics, largely to support Greenbackism. The result was decline, death and dissolution, though the American Labor party arose out of its ruins and put forth a candidate for President in 1872. The Knights of Saint Crispin was organized among the shoemakers in 1867 as a secret society and became an influential order, but it played with politics and died soon after 1873. For 10 years national organizations floundered in the mire of secrecy and politics.

But national unions of particular workers were now found to be insufficient. Unions of skilled workers, based on the wage-fund theory, gradually gave place to industrial unions, which arose from a class consciousness and included all skilled and unskilled workers in a particular industry, though the process has never been completed. It was found that strikes conducted by such unions were more effective. The next extension was the sympathetic strike, a good example of which is found in the trouble of 1894. The most radical extension of this movement appears in the Industrial Workers of the World (q.v.).

The Knights of Labor (q.v.), which was organized at Philadelphia in 1869 as a secret order of garment workers, was gradually transformed into an order for all workers. Its program of reform was extensive, demanding the referendum, bureaus of labor, the reservation of land for actual occupiers, prohibition of child labor, income and inheritance taxes, postal savings banks, government ownership of railways, the 8-hour day and arbitration of labor difficulties. The membership grew somewhat slowly until it reached 100,000 in 1885. This was a period of great unrest and the membership suddenly leaped to 600,000. It relied more upon co-operation than upon strikes to realize its industrial aims. But these men had come in, not to discuss patiently, adopt calmly and execute bravely plans for the amelioration of all workers. They wanted concrete results for the membership at once and turned to strikes and politics. The result was a rapid decline.

The Knights was a highly centralized order and had many disputes with local orders. The American Federation of Labor (q.v.) was founded in 1881 on the trade union basis and the federal idea of government. The former was a retrograde idea, but it, combined with the federal idea in government, was more in harmony with the aspirations and ideals of the members and the order continued to grow. The increasing number of Socialists sought to control it, but failed, and many withdrew (since 1900) to join more socialistic orders, such as the Trade and Labor Alliance and The American Labor Union, in forming the Industrial Workers of the World. In spite of this the strength of the Federation has hardly been impaired. Its largest affiliated order, the Mine Workers' Union, is of the industrial type.

The large number of women entering industry since the Civil War has led to the formation of many unions of women workers. The National Women's Trade Union League was organized in 1903. Its platform is: Organization of all workers into trade unions, equal pay for equal work, an 8-hour day, a minimum wage scale and full citizenship for women. This order and its local units are really auxiliaries of the Federation. In recent years the school teachers have been entering the Federation, and in 1916 the actors came over. The membership to-day is over 2,000,000.

The pen has developed into a powerful adjunct of the unions. There are many papers devoted entirely to the cause of labor, the most influential of which is the *American Federationist.* In addition many newspapers have columns or pages devoted to labor news.

The fundamental aims of the unions have already been stated in giving their platforms. Better wages and a shorter working day have been in the foreground. As already indicated, several unions favored co-operation and opposed strikes. A good many experiments were made in co-operation and a few of the later ones have succeeded. But neither co-operation

nor profit-sharing, which was introduced by the operators, has displaced the wage system, and for the improvement of wages the strike or threat to strike is still common. From 1881 to 1905 there were 36,757 strikes involving 8,703,824 workers. Fully 35 per cent of these strikes called directly for an increase of wages and 10 per cent were to oppose a reduction, while nearly 5 per cent called for a reduction in hours.

The question of hours has been a vital one. The 12-hour day was still common in some of the large scale industries and to this should be added the 7-day week, especially in those industries such as steel which depended upon the continuous process. The humanitarians again entered the field and, basing their demand upon social welfare rather than upon simply the welfare of the workers directly affected, they and the workers together succeeded in getting the 8-hour day enacted into law in certain industries. This marks the beginning of the industrial hygiene period. On the same basis considerable limitations have been put upon woman and child labor (q.v.).

Since the Civil War strikes have been marked by increasing violence. The great railroad strikes of 1877 and 1894, the strike in the steel mills at Homestead in 1892, in the textile mills at Lawrence in 1912 and in various coal mines culminating in the troubles in Colorado and Arkansas in 1914 are good examples of this.

The legal position of the strikers has experienced little change. The New York law of 1820 legalizing the strike added little to the rights already held, that of merely striking. In 1894 Eugene V. Debs was acquitted of a charge of conspiracy, but convicted and sent to prison for violating an injunction forbidding the American Railway Union and "all other persons whatsoever" to interfere with certain trains carrying United States mail and interstate commerce. The use of the injunction since the Civil War has been of far greater consequence than the fines for conspiracy before the war, even with the slight limitations imposed upon its use in recent years. Such prosecutions as that of Mr. Debs and of the Federation officers (Messrs. Gompers, Mitchell and Morrison) for violating an injunction against the publication of unfair lists and the awarding of damages against the Danbury hatters for boycotting under the Sherman Anti-Trust Act have virtually nullified picketing and the boycott (q.v.), two of labor's effective weapons, though three States nominally legalize the boycott and a recent decision has upheld picketing.

Under the circumstances it is no wonder that the unions have expended considerable energy in fighting for recognition. In the period 1881–1905, 18 per cent of the strikes, or nearly one-third of those ordered by unions, were for recognition of the union and another 7 per cent really involved this question. Many employers have agreed to recognize and deal with unions; a few have agreed to the closed shop; some, on the other hand, keep their shops open to non-union labor and closed to union labor. In large scale production unionism is weak, practically non-existent in some cases. In 1908 the Federation began active participation in politics in furtherance of its aims. It does not have official candidates, but works for those in sympathy with the cause and against those known to be hostile. Among the demands presented to the national conventions of the political parties in 1916 was one for the legalization of unions.

A general recognition of labor unions would make employers' unions almost necessary. Such unions exist and they seek to work with the labor unions. There is also another employers' union which is bitterly hostile to labor unions and uses every means to break them up. Unions of this type began in the sixties. Refusal to employ union men, blacklists and lockouts are the weapons used.

One of the most significant things in all the history of the labor movement is the comparatively recent entrance of a third party to the trouble, the public. Quarrels and disputes are vexatious to the disinterested where they have to listen to them. They disturb repose. But with the modern social organization such as it is, disputes long protracted may cause inconvenience, even when they do not terminate in violence and war. The movement for conciliation and arbitration to end such disputes has gained considerable headway in the last quarter century. The United States and most of the several States have provided official machinery for this work. A few notable cases of successful operation could be cited, but the general attitude of both labor and capital toward this movement is hostile. Compulsory arbitration would have to be adopted to cover anything like all the cases. This, says capital, is taking property without due process of law. This, says labor, with the enforcement of the award would mean compulsory labor or slavery. But the public is beginning to ask whether the right of operators and miners to keep a mine closed while they dispute over the terms of operating it, as in 1902, or to close a city by tying up the railways, as in 1894, is any more sacred than the right of the public to keep from freezing and starving. A negative answer may mean taking property without due process of law, but it does not mean slavery. It simply means that it is to the welfare of society that the mines be kept open and the railroads in operation. It may mean that the present capitalization of industry will be displaced, not by industrial democracy, but by the democratization of industry. See LABOR LEGISLATION; PROFIT-SHARING; LABOR UNIONS; WAGES.

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DAVID Y. THOMAS,
Professor of History and Political Science, University of Arkansas.

LABOR ORGANIZATIONS, Foreign. Modern trade unionism in Europe has its origin in the industrial revolution, which began in England during the latter part of the 18th century and spread during the next century over

the greater part of the Continent. The development of the factory system, the extension of markets and the increase in competition between employers led to the breakdown of the mediæval guild system and resulted in an open breach between employers and employees. The latter soon began to organize for protection and improvement of conditions. As a result we have the modern trade union, which after many difficulties, partly with the aid of strikes and partly through politics, has been able to assert itself, and now plays an important part in all of the principal manufacturing countries of Europe.

Great Britain.— In Great Britain modern trade unions began to appear during the 18th century, earlier than in any other country in the world. Such unions had to disguise themselves as friendly societies, since combinations in restraint of trade were contrary to the common law and thus illegal. The persecution of trade unions increased during the Napoleonic Wars, but in 1824 all Combination Laws previously passed were repealed and freedom of association granted. In 1825, however, part of the laws against combinations were re-enacted and persecutions of unions renewed.

From 1825 to 1850 English trade unionism was revolutionary and political in character. The falling of prices and the lack of prosperity gave rise in 1832 to the Grand National Consolidated Trade Union, established by Robert Owen. This union included many workmen, skilled as well as unskilled, and was co-operative and revolutionary. This movement was followed by the Chartist movement, which aimed at the attainment of economic equality through political equality or universal suffrage. It went to pieces in the latter forties with the return of prosperity and its place was taken by the modern trade union of England.

The English labor unions established after 1850 differed from their predecessors in that they took in only skilled labor and placed little confidence in political action. They believed in and tried to establish collective bargaining, limitation of apprenticeship and big reserve funds for strikes. In 1867 labor was given the right of suffrage and in 1875 the Conspiracy Laws were greatly limited. Between 1858 and 1867 many federations of branches in all principal towns formed under the name of trade councils. The trades councils united into a trade union council in 1868.

Beginning with 1880 English unionism again turned its eyes toward politics. Radical leaders like Mann and Burns became dissatisfied with the conservatism of the unions and turned to organize the unskilled workmen, a move which culminated in the famous dockers' strike of 1889. In 1883 they launched the Independent Labor party upon a socialistic platform, with James Keir Hardie as the most prominent leader. For a time the trade unions continued aloof until they were forced into the new movement by the Taff Vale decision in 1901 which threatened their very existence. Already in 1899 the Trades Union Congress, which since the sixties had kept watch over the parliamentary interests of the trade union, endorsed independent political action and in 1900 the «Labour Representation Committee» was organized, containing representatives from the trade unions and the several Socialist organizations, including the Independent Labor party. The name was later changed to «Labor Party.» In 1906 the new party scored its first great success, electing 29 members of Parliament and 11 others unaffiliated with the party but representing the miners. In the same year Parliament passed the Trade Union and Trade Dispute Act, which did away with the effects of the Taff Vale decision. The Labor party continued to influence British legislation throughout the succeeding years, aligning itself on the side of the Liberal government. The Great War caused British labor to give up many of its cherished privileges in order to hasten war production. In 1917 the Labor party modified its constitution to take in individuals, brain workers and unorganized individuals, and worked out a comprehensive reconstruction program. Since 1915 the Labor party was represented in the Cabinet.

In 1915 the trade unions affiliated with the Trades Union Congress numbered 190 with a membership of 2,667,357. The General Federation of Trade Unions, founded in 1899, is not a legislative but an economic organization, akin to the American Federation of Labor. It has a membership of about 800,000. The total number of trade unions, including those unaffiliated with any general organization at the end of 1915, was 1,123 with a total membership of 3,960,000.

Germany.— In Germany the medieval guild system came to an end about 1880 and its place was taken by modern guilds, made up mainly of employees and encouraged by the government. Modern trade unions were started in 1865 and at present are of three kinds, each being in opposition to the others: the «free» or Social Democratic unions, the Hirsch-Duncker or Liberal unions, and the Christian unions. Each of these groups has its separate federal organization.

The Social Democratic unions started in 1865 and grew very rapidly in membership till now they make up the largest and most powerful organization in the German labor movement. Their rapid growth started in 1868, when the workingmen succeeded in getting freedom of association. From 1878 to 1890 the unions were persecuted together with the Socialists and many unions were dissolved. The majority of them, however, were able to survive and prosper. All the Socialist unions are closely united in the General Commission, which is allied with the Social Democratic party. The Socialist unions are characterized by a centralized and efficient organization. In 1914 they numbered 2,548,763 members, including 223,676 women, and divided into 47 unions. They are very strong among the metal and mineral workers, in the building trades, and among the transport and factory workers. During the war the Socialist unions have lost more than 60 per cent of their membership. The Hirsch-Duncker or Liberal unions were started in 1868 in order to unite the workmen who supported the Radical Parliamentary party. They have since lost their political interests and are now mainly economic in character. They recognize the equal rights and duties of capital and labor and are non-socialistic. Their members are mostly skilled workmen, and in 1912 they numbered 109,225,

Socialists being barred from membership. The Christian or Catholic unions were started in 1894 as a result of the anti-religious bias of the Socialist unions. They are most numerous in the Catholic industrial and mining districts of Westphalia and the Rhine Valley. They repudiate Socialism and class conflict and support only the Centre, or Catholic Party. They are less aggressive than the other unions. In 1912 they had a membership of 344,687, which is gradually decreasing.

Besides these three principal classes of unions there are several minor groups. There are some independent unions, yellow unions promoted and subsidized by employers, and some Polish unions.

France.— Modern trade unionism in France was greatly retarded by the Law of 1791, which prohibited labor combinations. The old guild system was thereby overthrown and no organizations were allowed to take its place. Napoleon I tried to form compulsory organizations of employers and employees, but failed. Before 1884, however, many unions sprang up secretly all over France. Most of these unions were friendly societies or under such a disguise. The revolutionary activities during the middle part of the century gave great momentum to the labor movement and workingmen began to demand strongly the right of combination. In 1868 trade unions began to be tolerated, though they were still illegal. During the seventies numerous unions were formed and several labor congresses held in Paris. All during this time unionism was closely connected with the various factions of the Socialistic party.

In 1884 the Syndicat law was passed, legalizing trade unions and strikes. Since then French trade unionism developed rapidly. In 1886 a National Federation of Syndicates or Unions was formed. In 1887 the first *bourse du travail,* or labor exchange, formed by workers opposed to the Federation, was opened in Paris. The latter takes in workers of all trades. It spread all over France and in 1892 a National Association of Labor Exchanges was formed. In 1902 the latter united with the General Confederation of Labor, which in 1895 took the place of the National Federation. The General Confederation is revolutionary in spirit and believes in direct action, such as general strikes, boycotts and sabotage rather than in political action. It consists of national federations of trades and industries, national unions, single local unions and labor exchanges. It is characterized by a lack of centralized authority, discipline and stability. Owing to its revolutionary spirit France has had many strikes. In 1912 the Confederation had a membership of 600,000 workingmen.

Italy.— In Italy trade unionism is closely connected with Socialism and its growth is very recent. The first important Italian labor organizations were formed in 1861 and 1871 at Rome, under the influence of Mazzini, and were mostly co-operative. At present the Italian labor unions are of several kinds. The General Italian Federation of Labor is made up of Socialist unions and was formed in 1906. It is the most important organization and in 1912 had a membership of 400,000. The "Unione Sindicale" is syndicalistic and believes in direct action. It has a membership of 100,000. The Catholic unions include mostly women and are as yet not united. They also have a membership of about 100,000. The agricultural laborers form a National Federation of Rural Workers and have more than 150,000 members.

Austro-Hungary.— In 1859 Austria tried to compel by law employers and employees to unite into trade guilds, but failed. In 1869 the workingmen of Vienna won through demonstrations the right of combination. Since then trade unions came into existence, but owing to racial differentiation and antagonism their growth was rather slow. Most of the trade unions are found in Vienna and the industrial districts of Bohemia and Lower Austria. The General Commission of Austrian Trade Unions had in 1912 a membership of 428,000, 50,000 of whom were women. To this organization also belonged 70,000 Bohemians, some Poles, Italians and Slavs. In addition there are two independent movements, one among Bohemians and one among Germans, each having a membership of 85,000. The Catholic unions had 82,000 members, 45,000 belonging to the General Commission. During the war Austrian unions have lost more than 60 per cent of their membership.

Hungary has a separate trade union movement, whose centre is Budapest. The National Centre had in 1912 a membership of 112,000. Besides that we have the Christian unions and separate movements in Bosnia, Herzegovina and Croatia-Slavonia. At the beginning of the war Hungarian trade unions lost 50 per cent of their membership, but since 1916 thousands of miners, iron and metal workers and government employees have joined the trade union movement.

Russia.— Under the old régime the development of Russian trade unions was greatly hampered by the autocratic government. Labor began to organize in the later seventies under the leadership of the intellectuals and the Social Democrats. The unions were suppressed and continued to revive under different names only to be suppressed again. Numerous strikes during the middle of the nineties taught labor how to organize secretly under the banners of the Social Democratic party. Many strikes followed and several general strikes took place during the Revolution of 1905–06. The Constitution granted at the end of the Revolution gave labor the right of association and of striking. The latter was a dead letter and unions continued to be persecuted up till the Revolution of 1917. While the larger part of the labor movement was absorbed in the Socialist movement, there were numerous non-Socialist labor organizations, which were benefit or friendly societies. Some of the latter kind were supported by the government. After the Revolution of 1917 unionism spread like wildfire. The Bolshevist Revolution in November 1917 resulted in the government passing over into the hands of the workingmen.

Belgium and Holland.— The abolition of guilds in Belgium occurred in 1795 and since then trade unionism gradually developed out of trade benefit societies. In 1879 Belgian workmen started co-operation and, in 1885, a Socialist workingmen's party was launched. The

latter conducted general strikes in 1893, 1902 and 1913. The unions affiliated with the Labor party have a membership of 116,000. The Catholic unions have 82,761 members. In Holland the trade union movement has been weakened by religious differences and legal repression. The Federation of Trade Unions of the Netherlands in 1912 had 61,535 members, the Catholic unions 25,000 and the Protestant unions some 7,000. There were 50,000 more union men belonging to other organizations.

Scandinavia.— The trade union movements in Sweden, Denmark and Norway are closely allied. In Sweden trade unions began to form in 1880 and in 1890 a national organization was formed, which in 1912 had a membership of 85,000. The latter was greatly weakened by strikes and lockout during 1909, when it lost more than half of its membership. The syndicalist unions have some 35,000 workmen. In Denmark trade guilds came to an end in 1857 and trade unions began to appear in the early seventies, uniting into a General Federation in 1898. It had in 1912 a membership of more than 100,000 and was allied with the Socialists. There are also some Christian and some Syndicate unions. The General Federation of Norway has a membership of 64,000. In Sweden and Denmark trade unions greatly increased their membership during the war.

Switzerland.— Swiss unions resemble closely the German trade unions. The National Federation in 1912 had 86,000 members, the Syndicalists 7,000 and the Catholics 4,000. Besides there were some 45,000 organized engineers and railwaymen. Since 1886 all the unions are united into a Worker's League, which meets every three years in a congress and elects a labor sectariat to represent the unions in the government. The Swiss unions are very conservative.

Australia and New Zealand.— Trade unionism in Australia and New Zealand is very common and extends in almost every industry. In 1916 Australia had 705 unions with 546,556 members. Extensive strikes took place in Australia in 1890 in which the unions lost. The latter organized a labor party and entered politics. By 1915 the Labor party was in control of the government of Australia and of the governments of all the states of the commonwealth except Victoria. New Zealand in 1912 had 322 unions with 60,000 members. The strike of 1917, in which the unions were beaten, weakened the unions considerably.

Other Countries.— The National Federation of Trade Unions of Spain has a membership of 100,000 and is growing rapidly. Legal repression hampers its growth and railway strikes are still prohibited. South Africa has 100,000 union men, mostly miners, engineers, railwaymen and building workers. Canadian trade unions are closely allied with the American unions and the American Federation of Labor. There are also some independent unions. The former has 86,542 members and the latter 13,717. There are also trade union movements in Finland and the Balkans.

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SELIG PERLMAN,
Department of Political Economy, University of Wisconsin.

LABOR PARTY, The, a British political party made up of trade unions, trades councils, Socialist societies and labor associations. The name was adopted by the Labor Representation Committee in 1906 and its purpose was declared to be the maintaining of a parliamentary Labor party acting independently as to policy and workings. In order to secure the election of truly representative candidates, these candidates must accept their constitution and follow the decisions of the groups. An affiliated society has to become financially responsible for its candidates selected in conference in the constituency. The Labor party business is carried on by an executive committee of 13 members, nine representing trades unions, one trade councils and three Socialist societies. Funds are raised by assessing affiliated societies at two pence per member per annum. The candidates must appear before their constituents under the title of Labor candidates only. While, in 1910, the Labor party had but 42 representatives in the House of Commons with its 670 members it had even then proved itself a powerful factor in legislation. In 1916 the voting power of the Labor party was approximately 1,500,000 and became, politically, the central Socialist body for Great Britain, with 37 members in Parliament and its ex-chairman, J. Ramsay MacDonald, M.P. The Independent Labor party is an off-shoot of the Labor party and was established in 1893 but actively supports members of the parent concern at times. Dissenting from the majority on a vote at the beginning of the war on absolute co-operation during the war, Chairman MacDonald resigned and Arthur Henderson succeeded and on entering the Coalition Cabinet (1915) the chairmanship devolved on John Hodge. W. Brace, M.P. and G. H. Roberts, M.P., former officials of the Labor party were also taken into the ministry.

LABOR TURNOVER. Definition.— The first definition of the term "labor turnover" that has been presented with any considerable degree of authority was offered by the Bureau of Labor Statistics of the United States Department of Labor, in 1918. Prior to this time there had been so great a diversity of opinion upon this subject that it was difficult to find two authorities who agreed in every particular. At the National Employment Managers' Conference, held at Rochester, N. Y., in 1918, a special committee was appointed to define the term and fix a method of computing the percentages of turnover, but the original report of the committee was not favorably received, its rejection being due to the fact that it was based on net hirings instead of separations.

Adopting the conclusions that were reached by a majority of the delegates to the Rochester conference, the Bureau of Labor Statistics

prepared a report which has since been very generally accepted as the standard definition and method of computation in the matter of labor turnover. This report defines labor turnover as follows:

"Labor turnover for any period consists of the number of separations from service during that period. Separations include all quits, discharges and lay-offs for any reason whatsoever."

Computing Turnover.—The bureau's report was also the first official attempt to establish a standard method by which the percentages of labor turnover might be computed. This follows:

"The percentage of labor turnover for any period considered is the ratio of the total number of separations during the period to the average number of employees on the force report during that period. The force report gives the number of men actually working each day as shown by the attendance records.

"It is recommended that the percentage of turnover be computed for each week. All turnover percentages for a week or for any other period should always be reduced to a yearly basis.

"To compute the percentage of labor turnover for any period find the total separations for the period considered and divide by the average of the number actually working each day throughout that period. Then multiply by the proper factor to reduce to a yearly basis.

"Example: Method of computing percentage of labor turnover for one week:

"Total number of separations during week, 300.

"Daily force report (workers actually on the job): Monday, 1,020; Tuesday, 1,065; Wednesday, 1,070; Thursday, 1,035; Friday, 1,040; Saturday, 990. Average for week, 1,037.

"Percentage of labor turnover:

$$\frac{300}{1{,}037} \times 52 = 1{,}505 \text{ per cent.}$$

"Method of computing percentage of labor turnover for one year (assuming that records of daily attendance are averaged for each month):

"Total number of separations during the year, 5,020.

"Average number working each month as determined from the force reports or daily attendance records: May, 2,040; June, 2,100; July, 2,000; August, 1,980; September, 2,200; October, 2,220; November, 2,280; December, 2,240; January, 2,250; February, 2,170; March, 2,230; April, 2,400. Average for year, 2,176.

"Percentage of labor turnover:

$$\frac{5{,}020}{2{,}176} = 231 \text{ per cent.}$$

"In case the number employed by a plant or a department of a plant decreases because it is the deliberate policy of the plant management to reduce permanently its working force, this fact should be explicitly stated."

Cost of Turnover.—The large significance of employment matters in their relation to the cost of production is clearly demonstrated by the fact that the best authorities in industrial efficiency, both in the government service and in private industry, are devoting so much time to the study of these problems. They have long since reached the conclusion that the shifting working force represents one of the most enormous sources of wastage with which the manufacturer has to contend, as well as one of the greatest avenues of personal loss for the individual worker, and they assert that time and money are not wasted when these expenditures result in a reduction of the labor turnover.

There are, of course, no methods sufficiently comprehensive to apply in computing the cost of the labor turnover in all plants, because, of necessity, this expense, depending upon the cost of employing and training skilled workers, must differ, not only in each industry, but to some degree in each factory as well. Magnus W. Alexander, who has made a most thorough study of this question, estimated that the 12 metal working factories of which he made a survey lost $831,000 in a single year in the effort to maintain a normal force of workers. During this period 42,571 persons had been employed and 37,274 employees had quit the organizations for one reason or another, making a net increase in the working force of only 6,697.

While few reliable investigations have been made regarding the actual cost of changing help in industrial plants, it is generally agreed that the estimate of $40 per operative is extremely conservative. As Mr. Alexander says ('Hiring and Firing'): "While one manager estimated the cost of hiring and breaking in an employee at $30, the estimates of all others ranged from $50 to $200 per employee. The great difference in these estimates is no doubt due to the diversity of the industries represented by these managers. Most estimates ranged between $50 and $100.

In view of Mr. Alexander's estimate that it costs $73.50 to engage and break in a new semi-skilled operative and $8.50 to make an unskilled laborer fit into this part of the organization, it would seem that the lower estimate of $40 might safely be adopted as a minimum cost of a new worker, yet, even at this figure, the labor turnover becomes an item of expense that is worthy of the most serious consideration, the loss from this source undoubtedly being greater than that due to strikes.

For example, it is generally admitted that a labor turnover of 100 per cent should provide for every contingency, including all weaknesses in the labor situation and the inefficiency of the employment force. This estimate is based upon the assumption that about 1 per cent of the employees will die annually; that from 4 to 5 per cent will have to be replaced because of prolonged absence due to illness or other unavoidable causes; that about 5 per cent will be discharged for justifiable reasons; that about 8 per cent will leave with legitimate excuses, and that another 8 per cent will be released on account of natural fluctuation of production. It is also admitted, of course, that no employment department can be operated on a 100 per cent efficiency basis, but, assuming these estimates of the percentage of unavoidable changes to be reasonably correct, the difference between them and the 100 per cent turnover should make ample provisions for all conditions that might arise, including human frailties and all normal changes in the labor situation.

As a matter of fact, however, a 100 per cent labor turnover is an exception and not the rule, for in plants where no special efforts have been made to stabilize the working force it is not uncommon to find the turnover ranging from 200 to even 700 per cent, and this under conditions that are not regarded as abnormal. For example, the United States Bureau of Labor Statistics, in a study of the turnover of 12 companies in the San Francisco Bay region, for year ending 1 June 1918, found it had been necessary to hire 32,489 persons to keep 14,083 jobs filled. This means an annual turnover percentage of 224 for the aggregate labor forces of these concerns. To compute the cost of this changing force, estimating the expense at the conservative figure of $40 per man, indicates how stupendous must be the economic waste that is traceable directly to this source, an amount running into the tens of thousands — if not hundreds of thousands — for the average employer every year.

Computing Turnover Cost.— The difficulties in computing the cost of labor turnover are many, as this item of expense is one that depends largely upon the character of the industry and individual plant conditions. Thus, in plants where highly skilled workers are required an operative is not easily replaced and the cost of finding a successor for such a workman is much greater than that of employing an unskilled or even a semi-skilled laborer. Other factors besides those of skill and experience also have a bearing upon this question, for the cost of breaking in new operatives must necessarily depend upon such considerations as the value of the tools or machinery with which they work, or the value of the materials which they must handle.

In spite of all these difficulties, however, there are certain basic principles that may be followed in making an analysis of the cost of employing workers. These include (1) the cost of hiring; (2) the cost of instruction; (3) the loss through wear and tear on tools and machinery used by unskilled hands; (4) the loss through excessive waste made by inexperienced hands; (5) the loss through reduced production, including the excess plant equipment required to offset the smaller production made by inexperienced operatives.

In detail these items of expense may be summarized as follows:

(1) In figuring the cost of hiring include (a) the salaries of employment department officials and clerical help; (b) the cost of advertising and printing; (c) the cost of physical examinations; (d) all such miscellaneous expenses as fees to labor bureaus, cost of badges, etc. In regard to the item of employment department salaries, Boyd Fisher (in 'Determining Cost of Labor Turnover') calls attention to the fact that while other costs of hiring may be spread over the total number hired, the same rule does not apply in the case of employment department expense. "Figure total number of men on 'live' record during the year, whether employed or not," he writes, "subtract the total for average standing payroll. The ratio of remainder of names to the total on 'live' record is proportion of cost of salaries which should be spread over the number of men hired."

(2) A computation of the cost of instruction should include: (a) the time of foremen spent in the instruction of new employees; (b) the time of workmen devoted to breaking in new help; (c) the time of inspectors or investigators required in handling work of new employees; or, if segregated schools are in operation in the plant: (a) the salary of the director of the department schools; (b) the wages of the instructors; (c) the cost of the equipment devoted to school purposes, including all such items as interest on capital invested, depreciation, power, repairs, etc.

(3) In finding the cost of wear and tear include (a) the excess time spent by maintenance department on machines used by learners and new operatives; (b) cost of excess materials used for repairing these machines; (c) excess breakage and wear on tools, etc., and, when possible, (d) the cost for premature depreciation of machinery.

(4) The loss through spoiled work and other waste may be found by comparing the total scrap and waste made by new men with that made by old men. By dividing the difference by the number of men in the group, the total per new employee will be obtained.

(5) The loss due to reduced production depends, of course, upon the value of the article produced and the skill and experience necessary for its production, but there are various ways in which the cost can be estimated with approximate correctness. One of these is presented by Mr. Fisher in his study of turnover costs. He says: "(a) Select a number of machines worked by new men and an equal number of like machines worked by men over a year in service; (b) record the production of each group until the total of new men reaches the total of old men; (c) time required to reach this may be taken as average learning time; (d) total difference of production during this time may be spread over the number observed and the average taken as the loss for the average man hired; (e) for men dropping out of the group while under consideration substitute other men with approximately equal production and equal length of service." The excess plant cost and the loss due to reduced production should be figured separately and then added together, because, as Mr. Fisher points out, "the burden is not the same man for man and department for department." For example, "in departments where wages are in proportion to efficiency, 'excess plant' costs plus excessive supervision constitute the sum lost by slow production." In estimating the excess plant cost he suggests that we "assume that the plant investment required under present conditions will bear the same ratio to total investment in plant which would be needed if there were no turnover, as the production which would be possible with the present equipment operated by all experienced men would bear to the present actual output. In other words, if the reduced production is 20 per cent the excess plant required is 20 per cent."

Methods of Reducing the Turnover.— In view of the generally admitted fact that the labor turnover is one of the greatest sources of waste with which industry has to contend, it is not surprising that so many employers of labor should have adopted methods that tend to check the shifting tendency in the working force, especially when it has been shown so

clearly that the desired results may be attained by these means. Of course, this does not mean that the inauguration of the various "welfare" schemes in lieu of a fair wage and otherwise decent working conditions will be permanently effective as a remedy for industrial unrest, for nothing could be further from the truth. The first step in stabilizing employment is to make certain that the wages paid will compare favorably with the wage prevailing in competitive plants and that the hours of labor and shop conditions are the best that can be offered. Once these foundation principles have been firmly established, however, the work of creating a loyal, efficient and stable force of workers can be undertaken with confidence.

In accomplishing these results it is not necessary that all, or even a greater part, of the suggestions embodied in this article should be adopted. The ideas suggested represent many of the plans that have been put into practice by a large number of different employers in various sections of the country and all tend toward the same end by giving assurance to the worker that it is the purpose of the employer to see that he receives a square deal. In other words, so-called "welfare work" is successful only when it assumes a logical place in the program of a "square deal shop."

The first step in the reduction of the labor turnover is the establishment of a properly-equipped employment department under the direction of a high grade man who must be given all necessary authority and one of his first duties will be to ascertain, by the study of carefully compiled statistics, the sources of the excessive turnover and, as far as possible, its causes.

These facts ascertained, as they will be by an efficient employment manager, ways will be found to remedy existing defects in the organization. By hiring men in accordance with properly prepared "job specifications" he will greatly reduce the danger of assigning new employees to jobs that they are not fitted to perform; by seeing that they are given adequate instructions he paves the way for more speedy efficiency in service, which means a higher earning capacity for the worker as well as greater and better production for the firm, while, by standing as an intermediary between the employees and the employer he is in a position to receive the grievances of the workers, to see that any injustices are made right, errors are adjusted or misunderstandings explained to the satisfaction of those who may feel that they have cause for complaint. A plant which provides steady work at good wages for men who have been properly hired and who have the assurance that they will not be discharged hastily or unjustly, has put into effect the fundamental remedies for a labor turnover.

The supplementary remedies that have been adopted by those who have interested themselves in the effort to make employment congenial for the employed include a wide variety of activities. In many plants a number of these ideas have been inaugurated and, so far as the writer's knowledge extends, in no case where a well-defined program of such activities has been adopted has the plan ever been dropped. Undoubtedly, as Boyd Fisher says, "it is hard to make an industrial program succeed promptly owing to the difficulty that a plant has in establishing its character with its workmen. . . . Workmen have been disappointed too often to be anything but skeptical. They have tested too many mere paper plans for their welfare to place any easy reliance upon new ones. But when a management, by undeviating honesty, determination and good spirit, carries through during a term of years a program of employees' betterment, it cannot fail to win their confidence and friendship"—two factors which, he might have added, constitute one of the strongest incentives to loyal and efficient service.

These plans include:

Health, Sanitation and Safety.—The provision of standardized sanitary working conditions, with sufficient light, proper temperature and adequate ventilation, properly maintained toilets and well-equipped washing and dressing-rooms. While many plants now provide for a physical examination of applicants for employment, others who do not make this requirement have established an emergency, or first-aid, hospital where quick and efficient treatment can be given to those who meet with accidents or who are taken ill. In some instances regular physicians are kept in attendance, in others graduate nurses are in charge of the emergency work, and the nurses frequently perform equally important functions as home visitors or by acting as friends and advisers to the female workers. There are plants in this country where a dentist and an optician are regular members of the physical staff and in a few cases the medical supervision includes attendance upon the workers even when they are confined to their homes. Where there is a physician on the staff he is almost invariably a member of the safety organization and is intrusted with the duty of seeing that the plans of the management regarding the enforcement of all safety regulations and the adoption of standardized equipment for the protection of the operatives are effectively carried out.

Lunchroom.—The maintenance of lunchrooms where properly selected and carefully prepared foods are served, practically at cost price, is common. In some plants three regular meals are served daily that workers who do not live at home may have an opportunity to secure the right kinds of food at reasonable prices; in the majority of plants, however, the service is confined to one meal—luncheon or dinner—for each shift of operatives.

Co-operative Stores.—For the advantage of those who are housekeepers many plants maintain co-operative stores, thus using the purchasing power of the company to buy commodities cheaply and dispose of them to the workers with little or no profit. Some concerns have developed this plan to so high a degree that they supply their employees with bakery products baked in their own ovens, and vegetables and dairy products from their own farms, as well as the commodities which are ordinarily found in such stores.

Promotion of Thrift.—Many of the activities that have been adopted along betterment lines are designed to promote thrift and a more proper use of the income on the part of the employees. To accomplish this result, different avenues of approach are required. These include (a) the promotion of a mutual aid association, providing sickness, death and other benefits for the employees; (b) the establishment of a home building association; (c) the

maintenance of banking facilities (either in connection with or independent of a local bank), through which employees may deposit and withdraw their savings and transact other banking business without loss of time or danger of loss through fraud or error; (d) payment at discount of the debts of overburdened employees, the money to be repaid in small weekly instalments; (e) furnishing free legal aid in safeguarding real estate transactions of the workers, in preventing their exploitation by unprincipled professional men and tradesmen and in affording them advice and assistance in case of other legal troubles; (f) discourage the use of alcoholic drinks and other habits that lead to extravagance; (g) encourage the employees to purchase stock in the company as an avenue for the investment of their savings, thus giving them a personal interest in the prosperity of the plant.

Educational.— The establishment of classes in English for foreign-born workers, supplemented by instructions in citizenship. In some plants the work of instruction is carried still further, classes being formed for those who desire to pursue the studies that will fit them for higher positions in the employ of the company, while others encourage the employees to improve their education by reimbursing them for the money they may spend in courses of study when completed.

Housing.— In many cases companies have found it advantageous to inaugurate housing developments, thus enabling the workers to live under decent conditions in a proper environment, either by the payment of rent or on an instalment-purchase basis. In several instances thriving communities have been established, with all the attractions of small city life, and under conditions that are conducive to health, contentment and efficiency.

Developing a Plant Spirit.— Many of the activities adopted by different plants are particularly designed to develop a spirit of friendship and loyalty on the part of the employee. Among these are (a) the plant paper, a periodical which details the gossip and news happenings in the plant and which has almost invariably proved a source of great mutual enjoyment and profit; (b) the promotion of social functions, such as picnics during the summer months and entertainments, amateur theatricals, minstrel shows, amateur circuses, lectures and dances in the winter; in some plants foremen's meetings or dinners are held; in others, departmental gatherings for various social purposes; (c) the encouragement of any form of self-directed organization on the part of the employees so long as they are not contrary to the interests of the plant; such organizations including singing societies, bands, drum corps and all kinds of athletic activities. In many plants such facilities as athletic fields, hand-ball courts, tennis courts, indoor gymnasiums, bowling alleys, billiard tables and even playgrounds for the children or the employees are provided.

Day Nurseries.— In several instances day nurseries have been established in manufacturing plants for the care of the small children of women who are compelled to support their families and who would otherwise be unable to work and properly care for their little ones.

Suggestion Box.— Many employers have reported the success of plans for considering written suggestions submitted by employees, the reward being such commendation, promotion or prizes as the suggestions were found to deserve.

Protection for Workers.— During the past few years many plans have been adopted for the better remuneration and fuller protection of employees. These include (a) the payment of bonuses for efficient and faithful service; (b) the purchase of group insurance providing for payments in case of sickness or death; (c) the pensioning of aged or disabled employees, and (d) various plans for profit-sharing that have been adopted as a substitute for the pension. In addition, there are the several systems of co-operative management that have been adopted as a means of reducing the labor turnover through the promotion of industrial peace and contentment and which range from a slight variation from the ordinary shop committee to the more radical industrial democracy. Consult Slichter, S. H., 'The Turnover of Factory Labor' (1919).

JOHN R. MEADER,
Labor and Service Department, Brighton Mills, Passaic, N. J.

LABOR UNION, The American, a Socialist-Labor organization founded in May 1898, as the Western Labor Union. At a convention held in Denver, Colo., in 1902, the scope of the organization was widened and the name changed. It favors international socialism, and the government of the body is more centralized than ordinary federations of trade unions. The Union is composed largely of trade unions in the States of Colorado, Idaho, Montana, Washington and Wyoming. The organization is governed by an executive board of nine, and the usual president, vice-president and secretary-treasurer of such unions. The term of the officers is two years and they are voted for by the entire body of members. It has about 173 local unions, 5 district unions and a membership of 150,000. The most important affiliated organization is the Western Federation of Miners. The official organ is the *Voice of Labor*, published at Butte, Mont.

LABOR UNIONS. The government of labor unions has developed somewhat like our political institutions. First there was the local union, which confined its activities to one place and was very democratic. The members all came together in primary assembly where they decided all questions and elected a few officers for short terms. In time several unions in the same industry came together and formed a State or interstate union. These soon evolved into national organizations, such as the United Mine Workers, or the Brotherhood of Locomotive Engineers. Then there seems to have been a conscious effort to model after our political institutions. The local unions still exist. Some such organizations in a particular State have a State union though there is little State organization except in federations. City and State federations exist largely for political purposes, to influence elections and secure favorable legislation. At the top of the unions in any particular industry stands the national union. This is governed by a convention of delegates from the local unions and a set of executive officers. However, direct legislation by the initiative and referendum has gone a long way toward displacing convention legislation. It

also solves the vexatious problem of proportional representation.

Centralization.— The extent of centralization varies greatly in the different unions. The Cigar Makers' International Union has taken over a great many matters formerly left to the local unions and still left to them in some organizations. Extensive supervisory powers are vested in the hands of the president and the "financier." Sick, disabled and unemployment benefit funds are left with the locals, but the administration of these funds is rigidly inspected by the "financier." The use of the union label is another matter of national control and fines may be imposed for violation of the rules governing it. The United Mine Workers is a very democratic organization. Since 1911 the constitution has provided that no strike shall be ordered or called off by district or national officers without a referendum. The centralization of industry has done much to centralize the unions, though it is still possible for local strikes to be called in some industries. At the top of the orders stands the American Federation of Labor (q.v.), though several of the larger unions never have affiliated with the Federation. This is, strictly speaking, more nearly a confederation. It is a federation of federations. Local unions, with few exceptions, are known to it only through city, district, State or national federations. Exceptions are made in favor of unions for which no national federation exists. The executive council may levy a tax of one cent a week per member on the affiliated unions for not more than 10 weeks, the proceeds to be used to support an affiliated union on strike.

Membership.— Previous to 1880 membership in the unions was controlled mainly by the locals, but since that time this has passed more and more into the hands of the national authorities. Especially have they been active in forming new local unions. The race question has proved a vexatious problem. Twelve unions, mostly in the railway service, absolutely exclude the negro. The Knights and the American Federation are favorable to him, but he has a hard row in many unions from which he is nominally not excluded. The fees to be exacted of new members is generally left to the locals, but this is some times abused to exclude persons not desired by the particular local. To correct this some national unions prescribe maximum and minimum fees. Some require actual instruction and work in the trade amounting virtually to an apprenticeship and this must be in a "fair" shop. Kinship often plays a part. For example, in 1905 a local of the Plumbers' United Association accepted none but sons of journeymen or boss plumbers as apprentices. Limitations upon the number of apprentices are common. Competency for membership is tested in most unions by wage-earning capacity. The applicant must be competent to command the minimum wages established by the local union. A few apply the time test, that he shall have worked three years at the trade. A few combine the tests of wages and time. Some unions will not admit foreigners unless naturalized, or exact high fees of them or require the consent of the national union, or the presentation of a foreign card. Under certain conditions members may be required to withdraw or they are automatically dropped, for example, when a member advances to the position of foreman or employer.

The control exercised by unions over their members is considerable. The only punishments they can impose are fine and suspension or expulsion, but the force of these is very great. The courts have held that such fines are not unlawful and a few decisions intimate that that they may be collected by law. At least they may expel from membership for failure to pay the fine and this renders it very difficult for the one thus expelled to secure employment. The legality of such expulsion will be looked into by the courts and in one case a New York court has ordered restoration to membership. In some unions these penalties may be imposed by the locals. The Carpenters and Joiners Union requires trial by the district council, where one exists.

Benefits.—American unions were much later than the English in developing benefits, although until recent times there was no system of State insurance against accidents, sickness and unemployment, and no old age pensions. The leaders in this work have been the International Typographical Union, The Cigar Makers' International Union, The United Brotherhood of Carpenters and Joiners and the Street Railway Employees. The Typographical Union began paying burial benefits in 1892 and the same year it opened a home for disabled printers at Colorado Springs. In 1916 it paid $274,822 in death benefits, $352,920 in old age pensions and $109,431 for the maintenance of the home. The death benefits paid by the Carpenters in 1916 amounted to $314,977, by the Street Railway Employees, $353,294. The total of such benefits paid by over 70 unions in the American Federation amounted to $2,264,610, the sick benefits, $1,068,609, death benefits to members' wives, $63,662, for unemployment, $120,770, traveling benefits (in search of employment), $26,283. In 1916 the Carpenters voted almost unanimously for an assessment of 20 cents a month for an old age donation fund. A man 60 years old and for 25 years a member of the union is entitled to $10 a month. Some unions not affiliated with the Federation have similar arrangements, especially the railroad brotherhoods.

The accumulation of strike benefit funds is a common practice. The funds paid out by the members of the Federation in 1916 amounted to $2,708,789 to which should be added $154,009 paid by unions to aid other unions. For the relief of the Danbury Hatters, who were heavily fined for boycotting, the Federation collected $158,636.

By far the larger part of organized laborers belong to crafts unions. The industrial revolution and its continued evolution has brought about a disintegrating tendency in unions, crafts becoming subdivided into many new crafts. The result has been many and bitter jurisdictional disputes. For example, in the building trades, steam fitters and plumbers have often disputed over the handling of certain pipes. Some now show a tendency toward more comprehensive organization along industrial lines, such as the United Mine Workers, which includes all workers about mines. Another still broader organization is the Independent Workers of the World (q.v.).

Women's Organizations.— Previous to the Civil War most of the organizations of women were local and more or less temporary. The mill operators at Dover organized for a strike in 1828 and those at Lowell in 1838. In the fifties there was a renewal of activity and there were many strikes for fewer hours and better pay, but practically all failed. Attempts at peaceful trade agreements also failed, but the public was sufficiently aroused to secure a few laws limiting the hours.

The Civil War had been particularly hard on the working women and brought many into the clan who had never been there before. Organization now began anew, though conditions were so bad in the sewing trade that organization from within was almost impossible. Two States-wide organizations for women were soon formed, one in Massachusetts and one in New York. Only two national unions of men at this time admitted women. In the Typographical Union there was great opposition to the admission of women, mainly because of the low wages for which women worked. In 1868 the Woman's Typographical Union was formed, secured recognition of the national convention and Miss Augusta Lewis was elected corresponding secretary of the national union, but no woman has ever since held a national office. In 1881 women were admitted to the Knights of Labor. At the Richmond convention in 1886 the women delegates (76) formed a permanent organization to investigate the condition of women workers and to demand equal pay for equal work and the abolition of child labor. The organization of locals was now taken up by Mrs. Leonora Barry and carried on for four years with energy. The American Federation admitted women from the beginning (1881). In 1891 the office of national organizer to be filled by a woman was created, but little was done for several years, partly due to the panic of 1893. More male unions now began to admit women. In the later nineties there was a renewal of activity in the organization of women and many locals were formed, notably in the laundries and packing industries.

Real national organization began in 1904 with the Woman's Trade Union League, the main object of which was to secure the organization of women, a work in which Mrs. Raymond Robins (elected president in 1907) became very active. This organization aided the strikes in the sewing trades in 1909–11. To it is largely due the present unions of the cloak makers, waist makers and other white goods workers. It established with Hart, Schaffner and Marx the "Preferential Shop," on which was based the "Peace Protocol" in the New York cloak and suit industry, affecting 300,000 workers.

The great strike of 1909 gave a great impetus to the organization of women. The Ladies' Garment Worker's Union soon rose to third place in the American Federation, though it now holds fourth, having been passed by the Machinists. Yet this organization is officered by men.

The attitude of the unions of men toward admitting women is determined partly by geography — more favorable in the West than in the East,— mainly by the character of the trade. Those trades in which men supply the greater part of the labor have tended to be hostile though most have ultimately realized that it was better to have the women with them than against them.

It is the policy of the unions to promote the interests of the members first of all. They seek to do this in many ways, among them by securing the following: (1) Shorter day, now generally eight hours. This is done partly out of consideration for personal welfare, partly to make work for more people. (2) Higher pay, through the closed shop, limiting apprentices, restricting immigration, and sometimes the tariff. (3) The closed shop, through the union label, the boycott, extending the boycott even to the use of machinery made by non-union labor, and using it to control commerce and even the retail business. Dealers sometimes have to get the consent of unions to move perishable goods, simply because they were handled by non-union men in a distant State. Even the United States government has been forced to secure permits. In 1916 a non-union competitor sought an injunction against the cigarmakers' boycott, the object of which was to stop the sale of his cigars at retail. (4) Employment for many — through government employment at times, such devices as "full crew" laws, opposition to "scientific management," but opposition to new machinery has about ceased. (5) Limitation of production. Probably this is one reason for opposition to convict labor, though there are others. (6) Compensation for accidents. All are agreed on the employers' liability, but not on a fixed scale of compensation fixed by law. (7) The safety of workers. (8) The extension of mutual aid, through strike benefits, insurance, etc. (9) The molding of public opinion — through publicity.

The demands of the political parties as formulated in 1916 were: (1) Adequate compensation for employees of the government, including a minimum wage; (2) a compensation law; (3) a retiring allowance; (4) a tribunal of appeal and (5) the right to organize; (6) government ownership and operation of the telegraph and telephone lines; (7) equal suffrage and (8) restriction of immigration. The unions do not enter politics as a party, but they work for the election of candidates who will promise most for the defeat of men known to be hostile.

The unions composed of women or in which the women predominate seek primarily the betterment of women. The specific things they call for vary according to geography and industry, but all are pretty well agreed on the need for greater safety and they have been influential in securing better protection against fire in factories. Some are strong for coeducational industrial training, industrial history, the teaching of the philosophy of collective bargaining, and of the relation of government to labor. They demand equal suffrage and protest against the anti-woman's suffrage activity of the leisure class.

Legal Status.— The legal status of the unions, what they may do and what they may not do, is well established in some particulars, in others it is not. Collective agreements are legal and an employee who has contracted for a certain sum may recover more, if it afterward transpires that his union has made an agreement for more for its members. Whether the employer could recover from an employee after having made a lower contract with the union

does not seem to have been decided. The closed shop by agreement has been held legal, but the State may not require private business to be run on this principle, as Arizona sought to do. It may require only union labor on public works, as in the New York case, though the Nebraska Supreme Court has rendered a decision to the contrary, and quotes cases in six States to sustain it. Neither can the State favor unions by forbidding employers to exact as a condition of employment a promise from the employee not to affiliate with any union (Coppage v. Kans.). Several States had followed the lead of Kansas in attempting to give such protection only to have their acts declared null and void.

Picketing is a common practice, but is stubbornly resisted by employers. In 1913 Judge Sater (Ohio) declared that picketing was lawful when done "in a peaceful manner and by such limited numbers as not to awaken the fear and lead to the intimidation of workmen," but the following year the majority of the Supreme Court of Michigan held that there could be no such thing as peaceable picketing (*In re* Langwell) and quoted several cases to sustain the opinion.

The boycott has been declared legal by the courts of California and Montana. Elsewhere it is illegal, unless made legal by legislation. California, Maryland and Montana have legalized the peaceful boycott. Alabama, Colorado and Illinois have outlawed it by name. The publication of "unfair" lists has been held illegal several times (Buck Stove case, and Loewe v. Lawler), but the union papers continue to print them. Suits for damages have been instituted, the most noted of which was the Danbury Hat case (Loewe v. Lawler), in which the court awarded damages against the members of the union. Several decisions have held that the unions, not being incorporated, are not liable. For that reason suits are brought against the members as individuals. However, in a few recent cases (1917) suits have been brought against both the individuals and the unions, and the courts have declared the unions liable.

Several acts have been passed to exempt unions from the operation of anti-trust laws (restraint of trade) and they have been held not to violate that clause of the Constitution which guarantees to all the equal protection of the laws. The Clayton Act (1914) gives a very limited legality to the peaceful boycott and the peaceful picket so far as the Sherman Act is concerned.

On the other hand, the very existence of certain unions has been declared illegal. Unions may exercise considerable control over their members, even to the collection of fines, but there are limits of control over members and of interference with outsiders to which they may not go. The Amalgamated Window Glass Workers had rules forbidding any except members and apprentices to work at certain trades and fixing the number who should be allowed to work in certain departments. Every member of such a union, declared Judge Phillips (Ohio), had surrendered his industrial freedom, making a contract he had no right to make. For this reason he ordered the dissolution of the company and the appointment of a receiver. For similar reasons Judge Dayton declared the United Mine Workers an illegal combination, though he did not order a dissolution and some points of his decision were overruled. So far full legal responsibility has been avoided by refusing to incorporate and the exact legal status is yet to be determined. See ARBITRATION, INDUSTRIAL; EIGHT-HOUR LAW; LABOR LEGISLATION; LABOR MOVEMENT IN AMERICA.

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DAVID Y. THOMAS,
Professor of History of Political Science, University of Arkansas.

LABOR VOTE. See VOTE, VOTERS, VOTING.

LABORATORY (from the mediæval Latin *laboratorium*, a workshop). The word is used to denote any room or building devoted to experimental investigations in technics and the sciences for the purpose of advancing man's knowledge of special applications of natural law or of human physiology and mentality. Laboratories have been introduced into educational institutions to teach scientific and technical knowledge by means of experiments. The term is used to denote the workroom of a manufacturing chemist, or to the testing-rooms of an industry. In early times the nature of the chemical work of making drugs and potions was more or less disguised by the priesthood who called the place where they were made simply a workshop. Out of these early laboratories grew those of the Middle Ages. In this later period they were devoted to astrology, the making of drugs, potions and charms and to the search for the philosopher's stone by means of which it might be possible to change the baser metals into gold. Some of these laboratories were very important in that day, being patronized by the nobility or maintained at the public expense.

Among the first laboratories open to students were those of Purkinje, who established a physiological laboratory at Breslau in 1825, and the chemical laboratory of Baron von Liebig at the University of Giessen in the same year. The first physical laboratories for students were founded about 1846; one at Heidelberg, by Philipp Gustav Jolly, and one at the University of Glasgow by William Thomson — Lord Kelvin.

Among the great laboratories of the world may be noted that of the Royal Institution, established in 1800 by Count Rumford, which was to be devoted to the applied sciences, but which soon became the seat of great activity in researches in pure science, conducted by such men as Davy, Faraday and Tyndall. The Physikalische Reichsanstalt, in Charlottenburg, near Berlin, was a very famous laboratory where there were departments devoted to research in pure science, and other departments for the study of the application of science to industrial pursuits. In 1875 a committee of weights and measures, made up of representatives of 18 nations, was organized for the purpose of reproducing and furnishing inter-

national metric standards to the members. A laboratory for their manufacture and for research was established near Paris. Great Britain has placed with the Royal Society the control of its *National Physical Laboratory*, where standards of weights and measures are to be kept, duplicates made, instruments tested and research is to be carried on. In the United States the Smithsonian Institution (q.v.) was established in 1846. Many important lines of research have been developed there, out of some of which have grown up some governmental departments, as the United States Weather Bureau and the United States Fish Commission. The United States government has established, by act of Congress, approved 3 March 1901, a National Bureau of Standards, a suitable building and equipment also being provided. The buildings and equipment have been added to until there are over half a dozen well-appointed buildings in use. The bureau has the custody of the standards of weights and measures, and has power to manufacture duplicates, multiples and submultiples. It also has the power officially to test and calibrate physical and chemical apparatus and issue certificates for them. A great deal of work is done in standardizing and calibrating physical, chemical and technical apparatus and machines for educational institutions, manufacturing plants and various governmental departments. Tests of commercial products are carried out and standard specifications adopted, unifying and in many cases simplifying them. Researches in pure and applied sciences carried on have been of the greatest importance in technical and commercial work. Especially have important results been attained during the World War, in solving such problems as the production of optical glass, increasing the production of fuel for internal combustion engines and aid in the further development of wireless telegraphy and wireless telephony.

In practically all American institutions of learning laboratories for studying science by means of experiment and for research have been established. In many preparatory schools, and in an ever-increasing number of high schools, elementary laboratories are included for the study of physics, chemistry and biology. Chemical laboratories for educational purposes were introduced by the Rensselaer Polytechnic Institute and by the Massachusetts Institute of Technology.

Industrial Laboratories.— Laboratories for research and testing form an ever-increasing part of many industrial enterprises. Materials are treated either chemically or physically or both at various stages of the processes of manufacture, these tests often indicating the subsequent treatment of the products. Still another is the laboratory maintained by a large firm making paper from wood pulp. As an illustration of the gains made by such laboratories it may be remarked that much of what was formerly cast aside in the making of pulp paper is now manufactured into products which increase the profits of the business. In the paper manufacturer's laboratory there are not only machines for testing every possible quality of the paper, such as its ability to resist folding and creasing and exactly to measure the weight necessary to break it, but also a complete chemical laboratory, whose chemist, after years of experimentation, has found a means of making from a by-product of the paper a variety of charcoal much needed in clarifying certain drugs for pharmaceutical and other purposes.

Many industries of to-day are based on processes devised and worked out in laboratories for research. Some examples are the great plants at Niagara Falls, where metallic aluminum, calcium carbide, sodium hydrate and many other compounds are made. The basis of the progress in applied electricity is research in physics and chemistry. In many lines of industry scientific research in public and private laboratories has made possible new and better processes.

Notable examples of such progress are the recent developments in X-ray theory and apparatus, both wireless telegraphy and telephony, new alloy steels, chemical processes and products. The laboratory work done in the educational and technical chemical laboratories during the World War aside from purely war work have been of inestimable value in making the United States independent of foreign countries for certain products in which this country was previously almost entirely dependent. In those countries where there is the greatest activity in research in sciences and its applications there is also the greatest industrial activity. And it may be expected with confidence that in view of recent developments that many more commercial laboratories will be established and a greater degree of co-operation will be developed between the industrial and great educational laboratories.

Biological Laboratory.— Research in the biological sciences has helped to a better understanding of life and to its prolongation. The causes of many infections and contagious diseases have been discovered and effective methods of prevention and of combating them have been found. The Pasteur institutes in many large cities all over the world are witnesses to these facts.

In psychology research and laboratory tests have lead to a better understanding of the limitations and adaptability of the individual for various lines of work. This matter has been brought to the attention of the world very forcibly in choosing men for various activities during these times of change and the lessons so learned will not be lost in peace times.

A general outline and some of the details of construction, equipment and uses of a few of the most common types of laboratories found in educational institutions and in industrial laboratories of the present day are given below. Many laboratories where excellent work is being done are very much simpler than those described; and, on the other hand, some are much more elaborate in construction and equipment. Some features are common to them all, one of which is the lecture-room, where experimental demonstrations are given before many students at one time.

Louis Agassiz led the movement in the United States in the establishment of biological laboratories, by establishing a zoological laboratory at Harvard.

Agassiz also developed the modern marine laboratory which has led to the establishment of many such laboratories in all parts of the world. The researches in these laboratories have been of greatest value in the biological

sciences. Among the marine laboratories of the world must be enumerated the great laboratory established in 1872 by Dr. Anton Dohrn at Naples. Specialists from all parts of the world go to this laboratory to do research work. The United States Fish Commission has established two very important marine laboratories in the United States: one at Woods Hole, Mass., the other at Beaufort, N. C., in 1899. Woods Hole was the centre of activity in 1871 and again in 1875. The first building of the present fish culture and experiment station was completed in 1884. This laboratory has been open to voluntary investigators, tables being assigned to them. The investigators have numbered among them men from the principal universities of the country, and much valuable work both of economic and scientific value has been done there. The marine laboratory established at Beaufort, N. C., promises to be one of the greatest, if not the greatest, biological station in the world; larger than the one at Woods Hole or the one at Naples on the Mediterranean.

Other marine laboratories are the Chesapeake Zoological Laboratory of the Johns Hopkins University, the Hopkins Seaside Laboratory of the Leland Stanford Junior University in California and the Tufts College Laboratory at Harpswell, Me. Another great biological laboratory is that of the Carnegie Institution at Cold Spring Harbor.

Many special problems in biology, in medicine and other branches are studied in laboratories such as the Crocker Cancer Laboratory at Columbia University. Investigation into physiological processes in health and disease has been in late years so highly specialized that individual physicians are no longer able to follow them up, even in their own specialty, but now send specimens obtained from their patients to the larger laboratories. One of the most famous of the biological laboratories is that of the Rockefeller Institute for Medical Research, which was founded by John D. Rockefeller in 1901, situated at 66th street and the East River in New York City. This institution, endowed with nearly $3,000,000, contains pathological, chemical, bacteriological, pharmacological, experimental biological and experimental surgical laboratories, a hospital and an animal house. Animals are bred and farm products are supplied from a farm belonging to the institute and situated at Clyde, N. J., and an additional biological laboratory is maintained at Woods Hole, Mass. The institute publishes its findings in various branches of research through the media of its *Journal of Experimental Medicine* and in *Studies* and *Monographs,* issued from time to time.

A second very important marine biological laboratory for research exists at Woods Hole, where scientists from many institutions congregate. This laboratory is devoted entirely to research. There are many other important biological stations along the Atlantic, Pacific and Gulf coasts and a few on the Great Lakes.

The special appliances necessary to meet the needs of marine laboratories are boats, both large and small, nets, apparatus for obtaining the vegetable as well as the animal life of the salt and fresh water bodies and aquariums.

The researches of Pasteur in France on bacteria have led to the establishment of important bacteriological laboratories throughout the world. The universities and colleges in the United States have many laboratories devoted to teaching and investigation along the different groups of the biological sciences.

The botanical laboratory is devoted to the study of the life of plants and their classification according to their distinguishing characteristics and structure.

The laboratories for the whole group of biological sciences have much equipment in common. The laboratory rooms should be well lighted, preferably with north light and with window bars done away with as much as possible; the building should be situated so as to have a low horizon. This is important in microscopic and microphotographic work, in order to get a uniform lighting of the slide on the microscope stage. The rooms should be provided with tables, on which is placed a full equipment of reagents, staining and preserving solutions. Dissecting instruments are among the individual needs of the students. Microtomes are needed for cutting sections, to be mounted on slides for examination under the microscope. The photomicrographic camera aids very materially in the careful, systematic study of specimens. The negatives thus obtained are available for making lantern slides for projection purposes and for making enlarged photographs. In some lines of research work, as in bacteriology, culture media, in which the particular form of life may grow and multiply, may be used. Often the cultures must be kept for hours at a certain temperature, thus necessitating incubators, of which the temperature is regulated by thermostats. Frequently rooms are set apart for cultures. Dark rooms are essential for the development of negatives resulting from the photographic work.

Chemical Laboratory.— The chemical laboratory is one of the most important factors in the educational and industrial systems of our civilization. The rooms of the chemical laboratory should be well lighted and ventilated. Special lines of work should be isolated. The lecture-room for demonstration purposes should be much the same in its general features as the physical lecture-room (q.v.). The lecture-room should be supplied with different gases, including common illuminating gas, oxygen and hydrogen. The oxygen and hydrogen are generally supplied in heavy steel tanks under high pressure. A demonstration lantern should be conveniently placed. The table top should have one or two holes in it connected to the suction fan for carrying off fumes and gases, thus keeping them from being disseminated through the room.

The inorganic laboratories, for elementary purposes, may be divided into three principal divisions: first, that devoted to the study of the simple reactions by the beginner, who there learns experimentally what takes place in the simple reactions, as that of the production of hydrogen gas by pouring sulphuric acid on zinc, forming zinc sulphate and liberating the gas. The second division is that part devoted to qualitative analysis, where more complex reactions are studied and where the student learns to recognize and to test for the presence of the different elements. Under the third division is found quantitative analysis, which, as the name

implies, is devoted to the study of the quantitative relations of compounds.

The work in these three divisions leads up to the more complex work of organic chemistry and research work. The equipment of these laboratories will give a general outline of the whole. Wide top tables should be provided. The tops should be impervious to water and as little acted on by acids as possible. Alberene stone is excellent material for such purposes. A good construction is to have the tops slope a little from both sides to the centre line, where a trough is placed to carry off the wastes to the sewer. Racks for the storing of bottles containing reagents should be placed so as to be easily reached by the students from both sides of the table. Beneath the top should be drawers and shelving so subdivided that each student may keep his apparatus separate. The tables should be provided with gas and water, with plenty of taps and with electrical connections. Means should also be furnished for boiling under reduced pressure. For the experiments where noxious gases are given off, hoods should be provided, the bases being of the same material as the table tops, the sides and top of fixed glass with a glass window that may be opened in front. For ventilation within the hood there should be openings to a flue connected with a blower which produces a suction of the gases from the hood. One of the openings should be well toward the top and the other at the bottom of the hood. If artificial lighting is required it should be from above the glass top. Plenty of stop-cocks for gas, water and suction should be provided for each hood.

Among the independent rooms needed are those for the following purposes: A hydrogen sulphide plant is an absolute necessity, and it should be isolated to the extent of having a well-ventilated room of its own. It should, however, be situated as conveniently as possible to the main divisions of the laboratory. Sometimes it may be advantageous to pipe the gas to different rooms. Near the quantitative laboratory should be a balance-room well stocked with analytical balances supported on solid tables or wall brackets. A combustion-room and a furnace-room are often required. The furnace-room should be so located as to get a good draft or so as to be connected to a suction fan system.

The study of the spectrum of gases makes it necessary to have a good induction coil to produce a spark spectrum, which may be viewed by the eye, or which may be photographed. The range of temperatures at which chemical phenomena are now studied calls for very high and very low temperatures, which means that the electric furnace and a liquid air plant are often desirable. Apparatus for distillation under different pressures and for obtaining constant temperatures are very necessary in some phases of the work. The rooms for gas analysis should be so situated as to make it possible to have but small temperature fluctuations. A north exposure, thus getting rid of direct sunlight and yet getting good illumination, is preferable. The principal part of the equipment needed for gas analysis by the Hempel method includes gas buretts, to measure volumes, absorption pipettes for the different reagents used to absorb different gases, combustion pipettes and oxygen generators.

The physical chemistry laboratory requires much apparatus and equipment needed in physics and in the other divisions of chemical work, including analytical balances, thermometers, barometers, manometers, calorimeters, thermostats, motors, stirring gear, refractometers, spectrometers, apparatus for studying polarized light, ammeters, voltmeters, resistances and many other pieces. Among the subjects studied in the student laboratory are density, viscosity, vapor pressure, boiling and freezing points, heats of fusion and vaporization, critical temperatures, pressures and volumes, heats of combustion, solubility and the various divisions of electrolysis and electro-chemistry.

Electrical Laboratory.— The student and investigator in the field of electricity should have a thorough grounding in general physics and physical laboratory methods. The student in the electrical laboratory becomes acquainted with the relations of electric currents, electromotive forces and resistances; and the production and transmission of electrical energy, electrical quantity, capacity, magnetism and the relations between electricity and magnetism. The laboratory should be of strong construction on account of the lines of shafting and the heavy machines used. In the general laboratory will be found for purposes of investigation dynamos of the various direct and alternating current types; direct and alternating current motors, the latter covering synchronous, two-phase and three-phase motors, induction motors and rotary converters. Portable and variable inductive and non-inductive resistances; portable and fixed instruments for measuring current, electrical pressure or potential and power should be plentifully supplied. The fixed machines, instruments, the private rooms and tables should have lines of wire connecting them with a central switchboard through which any desired grouping of stations may be made. Among the separate departments may be one for testing and studying transformers; one for investigating the magnetic properties of iron, steel and other metals; a potentiometer-room in which to test and calibrate the instruments used in electrical measurements. Some interesting and important parts of the work are the investigation of the resistance and strength of insulators and conductors; the study of condensers and their effect in a circuit; the study of self and mutual induction and the measurements of them. Separate rooms which can be made dark, the walls of which absorb as much light as possible, or which can be made any color desired by a proper arrangement of coverings, where work in lighting and photometry may be performed, are also important parts of the equipment of an electrical laboratory.

The electrical engineering student should find it possible to make tests in all lines of his profession, approximating, as nearly as possible, actual working conditions in the commercial world. In order to give the greatest usefulness to the laboratory, the equipment should be kept abreast with the advances in the best engineering practice.

Engineering Laboratory.— Engineering laboratories have been developed within the past 40 years along all lines of engineering and technical education. The divisions are many, but only a few of them will be considered here.

The electrical engineering laboratory has been discussed above under the head of *Electrical Laboratory*. Under the division of Mechanical Engineering may be placed railroad engineering, marine engineering and the like. Among the subdivisions under Civil Engineering are mining engineering, hydraulic engineering, sanitary engineering and bridge engineering, for all of which laboraories have been developed.

The laboratory should be a solid structure with massive foundations for the heavy machines used. Boiler-rooms, engine-rooms, material testing-rooms and general experimental rooms on mechanical devices, are the requisites. The boilers tested comprise fire-tube, water-tube and shell boilers. Tests are made of fuels, as to their steaming qualities, the ash and flue gases, by means of calorimeters, gas meters, thermometers, thermo-elements and balances. Engine tests may be made on many steam motors comprising steam turbines, simple slide valve, Corliss and compound engines of high and low pressure types. For these tests are needed steam gauges, thermometers, indicators communicating directly with the inside of the cylinders, together with "reducing motions" for obtaining automatic records of the steam pressure within the cylinders during a complete stroke, from which data may be obtained by means of which to compute the energy put into the engine; and dynamometers to measure the output in useful work.

Another department is devoted to internal combustion motors. Under this class are included hot air engines, oil and gas engines, which require dynamometers, gas meters and other measurers of the fuel supplied, and means for testing the products of combustion. In the mechanical laboratory, water motors, fans, blowers, air compressors, compressed air machines and tools, different methods of power transmission, as by shafting, gearing, belts, ropes and chains and the like, are studied. Measurements of the coefficients of friction of different substances are found, and the effects of lubrication by different substances are investigated. Lubricants are tested under various conditions, such as at various temperatures, pressures and in the presence of different vapors or gases. The testing of materials is common to mechanical and civil engineering laboratories. It will be outlined under the latter head.

In the civil engineering laboratories, calculating and measuring instruments are tested and calibrated. Among these instruments are transits and levels, and all instruments having graduated circles, cross-hairs and spirit levels; steel tapes; chains and bars for measuring lengths; chronometers for measuring time; barometers and thermometers. Here also is studied the magnetometer; and by means of it the strength of the horizontal component of the earth's magnetic field. The variation and dip of the earth field are also investigated. The "acceleration of gravity" is determined.

In the hydraulic division of these laboratories are studied the flow of water in pipes, "skin friction," the flow of water through different orifices under different conditions, the flow of water over weirs and its measurement. This is very important in irrigation.

The laboratory devoted to the testing of materials is a very important one in all engineering work. All kinds of materials used in engineering work are tested. The apparatus required comprises machines for testing the resistance to compression, of tensile strength, of torsion and flexure of materials. Cements are tested for their resistance to tension and compression and for the length of time required for them to set. For the last test named, automatic apparatus has been devised which registers time and amount of "set." Forms in which to mold the briquettes, and water tanks in which to immerse them for setting, are among the required equipment. Tests on concretes are made in a similar manner. Abrasion machines are used to make tests on paving material and other material subject to wear.

Physical Laboratory.— The housing and equipment of a physical laboratory is of very great importance. The building in which the laboratory is to be located should be so situated as to reduce to a minimum all jar and tremor, and to do away with all outside magnetic disturbances, such as those due to electric car lines.

Many rooms are needed for special divisions of the work; such as constant temperature rooms, which require special precautions in design and construction and which are best situated below ground. Special rooms are demanded for radiometers, spectrometers, potentiometers and such other instruments as require constant conditions to ensure good results. Dark rooms are necessary for work in light, which includes experiments requiring diffraction gratings, photometers and the phenomena of light in general. Since photography has become of very great practical importance, fully equipped dark rooms are desired; also a skylight room where enlargements and reductions of negatives may be made, and lantern slides prepared. It should be possible to introduce sunlight into some of the rooms.

A lecture-room in which experimental demonstrations may be given is a necessity, and much attention should be given to its arrangement. The lecture-room should be well lighted but should be provided with arrangements for readily darkening it. The experimental lecture table should be placed so as to be easily seen from all parts of the room. This table should have water, gas, air blast, suction, water motors and other motors, sink and terminals for obtaining direct and alternating currents. A solid masonry pier upon which to set up delicate apparatus and that requiring no vibration should be provided. The table tops should be impervious to water and so far as possible acid-resisting.

An apparatus-room in which is kept demonstration apparatus should be situated conveniently to the lecture-room; general apparatus may also be kept there. The opening between the apparatus-room and the lecture-room should be large enough to admit the passage of large pieces of apparatus, and also to allow experiments to be set up on wheeled tables in the apparatus-room, then wheeled directly into the lecture room.

Separate rooms should be provided for research work. It is desirable that it be possible to connect some of the rooms in suites, and to provide dark rooms for some of the suites.

Research-rooms should contain water and gas, both ordinary illuminating and acetylene

gas. They should have electrical connections to a central switchboard sufficient to obtain various types of current at one time. The floors of the building should be solid. Stone tables built in the walls form good supports for instruments, but there should be provided in some cases stone piers with independent foundations.

The general laboratories should have plenty of light and should be provided with separate rooms for some classes of work, as in light and sound, where it is often necessary to have darkened rooms. A heat bench or table should be provided; it should have an impervious top with enough pitch to drain into a central trough or hole to conduct away the waste. A rack with hooks above the bench, from which to suspend thermometers, is convenient. The rooms should be well supplied with tables, and along the walls stone shelving built in the walls will be found useful. The dirt incident to primary batteries may be concentrated if all the cells be kept together, their terminals leading to a switchboard to which are connected the terminals of lines leading to the various stations in the rooms.

The laboratory should also have storage batteries, and, if necessary, have its own dynamos in order to procure direct and alternating currents. An acetylene gas plant, and a compressor and liquefier for obtaining liquid air and other gases, are becoming necessary parts of the general equipment of a physical laboratory. A plant for the production of oxygen and hydrogen is also often desirable. A workshop in which to repair and build apparatus is a great convenience. The wiring and plumbing should be open and accessible as possible. All dark rooms as well as other rooms should be well ventilated, as it is often imperative for an observer to be confined in a room for hours at a time. Further reference to physical laboratory equipment will be found under the head of *Electrical Laboratory.*

Psychological Laboratory.— Since the establishment of the first psychological laboratory in Leipzig in 1875, by Wilhelm Wundt, where one room was devoted to apparatus and research, the development of the psychological laboratory has been rapid. One of Wundt's first students, G. Stanley Hall, established the first psychological laboratory in America at Johns Hopkins University in 1881, since which time many others have been started in the United States and foreign countries, including Japan.

The requirements of the psychological laboratory have increased very rapidly with the development of the subject, until its housing and equipment has become a problem of great importance and interest. Many rooms and much equipment are now required for a detailed study of the various expressions of conscious mentality. Beside the rooms necessary in teaching psychology by means of experiments, other rooms for research are needed. Quiet and relaxation being often necessary, it is important so to arrange the rooms that the work of one student will in no way interfere with that of another student. The separate rooms should be provided with gas, electric lights and water. Where absolute quiet is required, piping of all kinds should be excluded, the heating being done by indirect radiation if necessary, and only incandescent electric lighting being used. The rooms should be wired for electrical intercommunication between those which may likely be desired to be used in suites where, as is frequently the case, the experimenter must be in one room and the "subject" in the other. They should also have wires leading to the rooms where chronometers and electrical recording devices are located.

For the study of the sensations of light and the eye, its capacity and limitations, suites of rooms are desirable in many instances. These rooms should be capable of being either well lighted or darkened to any desired degree. The equipment of this part of the laboratory includes models of the eye and the muscles governing its movements, sectional models; apparatus for studying color sensations, color mixing, color blindness, contrast, brightness independent of the color sensation; apparatus for studying optical illusions, the sensitiveness of the retina at different points, the sensitiveness of the eye to changes in position, the sense of location and the imperfections of the eye; and apparatus for studying reactions and reaction times.

The sensation of sound requires isolated rooms where the noises produced may not reach other parts of the laboratory, and for certain parts of the work rooms that are sound and light proof. In this part of the laboratory the sensitiveness, range and analyzing power of the ear are studied. The equipment for the work in sound comprises models of the ear; instruments for producing sound, such as tuning-forks, sirens, organ pipes and other sources of vibrations; and resonators for analyzing complex sounds.

Other rooms are needed for studying the sense of heat and cold, pressure, pain and the locations of the various end organs. The apparatus necessary is that required to produce the corresponding sensations. The effects of different sensations on the respiratory organs and heart action is another subject for investigation. Other parts of the laboratory are devoted to the senses of taste and smell. The equipment comprises the substances with which to test the various parts of the tongue, and also substances to produce different odors.

An essential feature of the psychological laboratory is a workshop where the many special forms of apparatus may be made, which are necessary to be used in the ever-changing problems which the scientific study of the conscious mind presents. Such a workshop contains a fairly complete equipment for both wood and metal working with a plentiful supply of power for running the machines.

Among the special pieces of apparatus necessary may be mentioned the chronometer, the chronograph, electrically driven tuning-forks, sources of mechanical and electrical energy and induction coils.

Aeronautical Laboratories.— The Central Establishment for Military Aeronautics at Chalais-Meudon near Paris led the way for aeronautical laboratories in 1884. A second was that of G. Eiffel, and a third that of de la Meurthe at Saint Cyr — the Aerotechnical Institute of the University of Paris. The Langley Aerodynamical Laboratory was opened in 1913. Other aeronautical laboratories which have been very productive are those at Gottingen, the English National Physical Laboratory, and the Bureau of Standards at Washington.

In these laboratories there are wind-tunnels specially constructed to give uniform wind streams at various velocities. In connection with these tunnels there are specially constructed balances to measure the left and drag on wing surfaces, the resistances of parts and the forces on various shapes, and the retarding forces on airplanes as a whole. One very important laboratory established at the Bureau of Standards in 1917 is that for testing engines at reduced atmospheric pressures and the corresponding reduced temperatures simulating conditions for varying altitudes.

Municipal laboratories for the standardization of supplies bought by cities, such as asphalt, fire hose, food for various municipal institutions and many other commodities are maintained by several cities. These laboratories not only test what is supplied for the city's use, acquired through the purchasing departments, but also enable their agents to form more accurate specifications for further supplies. Water, coal, gas and other things for public use are submitted to regular examinations in such laboratories.

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ERNEST BLAKER,
Assistant Professor of Physics, Cornell University.

LABORDE, la'bôrd', **Léon Emmanuel Simon Joseph,** COUNT DE, French archæologist and author: b. Paris, 12 June 1807; d. there, 25 March 1869. He accompanied his father, Alexander Louis Joseph on a journey to the Orient concerning which he wrote 'Voyage dans l'Arabie Pétrée' (Paris 1830–33), and was appointed secretary of legation at Rome (1828) and became (1831) Talleyrand's secretary at London, to fill later the same position at The Hague and Cassel. He was elected a member of the Academy in 1842. He became later curator of modern sculpture at the Louvre and (1856) director of the Imperial archives and was made a senator. Notable among his works are 'Histoire de la Gravure en manière noire' (1839); 'Voyage en Orient: Asie-Mineure et Syrie' (1837–62), with 180 plates; 'Le Parthénon' (1854), with 30 plates, but unfinished; 'De l'Union des Arts et de l'Industrie' (1856). He also wrote a number of works on the Paris libraries and monuments, etc.

LABORI, Fernand Gustave Gaston, fĕr-năń güs-tăv gäs-tôń lä-bō-rē, French lawyer and editor: b. Rheims, 18 April 1860; d. 14 March 1917. He studied at the Rheims Lycée and for two years in Germany and England; took his degrees in the law faculty of Paris in 1881 and 1883, and was enrolled at the bar of the Court of Appeals in 1884; was secretary of the conference of advocates in 1887–88; took a high professional rank; and was especially prominent as counsel for the defense in notable cases, as the libel action by Compayré against Numa Gilly, and the trials of the anarchists Duval and Vaillant. In 1898 he was chosen deputy for Fontainebleu. In the same year he defended Emile Zola (q.v.), accused of libeling the army and the President of the republic in the letter concerning the Dreyfus case. He was junior counsel to Demange in the defense of Dreyfus at the trial at Rennes in 1899, and thoroughly confuted his opponents by his logic and his brilliant cross-questioning. He did not make the final plea, but his 'Notes de Plaiderie' were published in the 'Compte-rendu Sténographique In-extenso du Procès Dreyfus a Rennes.' On 14 August, while on his way to the court, he was dangerously wounded by a revolver bullet fired by a fanatic or mercenary. He was shortly enabled, however, to continue the case. In 1903 he defended the Humbert swindlers (see HUMBERT SWINDLE) and in 1914 defended Madame Caillaux (see CAILLAUX; CALMETTE) and secured her acquittal. He was editor-in-chief of the judicial daily *La Gazette du Palais* in 1888–94; established the *Revue du Palais* and *Grande Revue* in 1897; and is joint author of 'Repertoire encyclopédique de Droit Français,' in 12 volumes (1898). See DREYFUS, ALFRED.

LABOUCHÈRE, lä-boo-shăr, **Henry Du Pré,** English politician and editor: b. London, 9 Nov. 1831; d. Florence, Italy, 15 Jan. 1912. He was of Huguenot origin, was educated at Eton and Trinity College, Cambridge; was in the British diplomatic service in 1854–64, being at one time a member of the British legation at Washington; in 1865–66 sat in Parliament for Windsor; was then unseated on petition; but represented Middlesex in 1867–68 and Northampton in 1880–1906. During his parliamentary career he strongly advocated Home Rule. He was at one time part proprietor of the London *Daily News,* to which he contributed letters from Paris during the siege (1870–71). In 1876 he established and became editor of *Truth,* a weekly journal, in which he expressed his opinions with great vigor. The denunciations of all manner of public frauds in the columns of *Truth* brought him frequently into the law courts for libel, and though he almost invariably won his cases, he frequently lost heavily on them through being unable to recover costs from the unsuccessful litigants. He was an extreme Radical in politics, was a strong opponent of the South African War of 1899–1902, a man of cosmopolitan sympathies, and on account of his wit and incisiveness popular with all parties in the House of Commons.

LABOULAYE, Edouard René Lefebvre de, ā-doo-ār rė-nā le-fāvr lā-boo-lā, French publicist and jurist: b. Paris, 18 Jan. 1811; d. there, 23 May 1883. He studied law and in 1842 he joined the Paris bar. He was a close student of the great German writers on jurisprudence, whose works and researches he introduced to his countrymen in a series of able essays, written in an admirable style. The Academy of Inscriptions and Belles-Lettres crowned his 'Histoire du Droit de Propriété Foncière' (1839), and elected him to its membership in 1845. An 'Essai sur la Vie et les Ouvrages de Savigny' (1840), was followed by 'Recherches

sur la Condition civile et politique des Femmes' (1843), and an 'Essai sur les Lois criminelles des Romains' (1845), both crowned by the Academy of Moral Sciences. In 1849 he was appointed professor of comparative legislation in the Collège de France. After the foundation of the Second Empire he constantly strove to rouse opposition to it, and in several published works as well as in his lectures held up the American Constitution to the admiration of his countrymen. In his 'Paris en Amérique' (1863), an ingenious and delightful satirical romance, which passed rapidly through 30 editions, he held up to a ridicule that was but thinly disguised the Napoleonic régime. 'Prince Caniche' was another extremely popular novel on the same lines, and had the effect of disintegrating in the minds of the French people attachment to the empire. The popularity of Laboulaye, however, declined somewhat through his support of the plebiscite in 1870, and soon afterward he resigned his chair at the Collège de France. After the fall of the empire he was elected for Paris in 1871. In 1875 he was elected a life senator. Besides the works above mentioned he wrote 'Histoire des Etats-Unis d'Amérique' (1854); 'Etudes Contemporaines sur l'Allemagne et les Pays Slaves' (1854); 'Souvenirs d'un Voyageur' (1857); 'Liberté Religieuse' (1858); 'Etudes sur la Propriété Littéraire en France et en Angleterre' (1858); 'Abdallah' (1859), an Arab romance; 'L'Etat et Ses Limites' (1863); 'Paris en Amérique' (1863), an ingenious and extremely popular satirical romance; 'Contes Bleus' (1864), a series of admirably told tales; 'Bleus' (1865); 'Contes et Nouvelles' (1868); 'Discours Populaires' (1869), etc. He translated into French several of Channing's works and the 'Memoirs and Correspondence of Franklin' with an introduction. Consult Bigelow, J., 'Some Recollections of the Late Edouard Laboulaye' (New York 1889). See Contes Bleus.

LABRADOR. History.— The peninsula of Labrador is doubly distinguished as the first part of North America to be discovered by Europeans, and by being the last portion of the continent in which large areas remain unexplored by white men.

Lief, the Norseman, voyaging westward from Greenland in the year 1000 reached its northeastern part and sailed south along its Atlantic coast to more temperate regions. Cortereal rediscovered this coast and traced it northward from the Strait of Belle Isle to the entrance to Hudson Strait, in 1500. A cargo of Eskimo slaves carried by him to Portugal accounts for the name Labrador given to the country. Jacques Cartier, on his voyage up the Gulf of Saint Lawrence, in 1535, outlined the southern coast of the peninsula; while the northern and western coasts were discovered by Henry Hudson in 1610. The valuable fisheries of the western Atlantic early attracted the fishermen of Europe and the town of Brest was founded, near the Strait of Belle Isle, in 1504. At the height of its prosperity about the year 1600 it contained upwards of 200 houses and was visited by fishing vessels from France, England, Spain and Portugal.

Exploration.—Although the coasts of the peninsula were early known, their barren character and the mountainous-looking interior, which could only be penetrated by the ascent of difficult and dangerous rivers, long delayed the exploration of the interior and led to much misinformation concerning it. During the past 40 years surveyors of the province of Quebec have accurately mapped the principal rivers of the southern watershed to their heads, thus giving a good idea of the geography of the southern third of the peninsula. The exploration of the more inaccessible northern two-thirds has been undertaken by the Canadian Geological Survey; work began in 1880 and it has been the fortune of the writer to have been in charge of these explorations. In this work the northern and western coasts have been closely examined and exploratory lines have been carried along a number of the largest streams of the eastern, northern and western watersheds. Much still remains unknown, but sufficient has been learned to give a good general idea of the geography and resources of these northern parts.

Topography.— The peninsula of Labrador forms the northeastern part of Canada and has an area of 511,000 square miles. Its southern boundary is an arbitrary line drawn eastward 600 miles from the south end of Hudson Bay to the Gulf of Saint Lawrence, thence 500 miles along the north shore of the gulf to the Strait of Belle Isle. The Atlantic coast runs north-northwest 700 miles to the eastern entrance of Hudson Strait; the south shore of the strait has a general trend of west-northwest for about 500 miles, while the western boundary is a north-and-south line along the east side of Hudson Bay, and is 800 miles in length. The Atlantic coast is indented by many long, narrow bays, or fiords, of which Hamilton Inlet is the largest, extending inland 150 miles, while several of the others exceed 50 miles in length. Abrupt, partly-wooded hills surround the fiords and rise from 1,000 to 5,000 feet above their deep waters. Numerous rocky islands fringe the coast outside, and afford protected navigation for long distances in the channels between them, thus rendering the coast an ideal one for a safe summer cruise amid scenery rivalling in beauty and grandeur that of the coast of Norway.

The southern and northern coasts are similar in character to that on the Atlantic, but are on a scale less grand, while the eastern shores of Hudson Bay are generally low and fringed with shallow, dangerous waters.

The peninsula as a whole may be considered a plateau that rises somewhat abruptly from the sea on the north, east and south sides and more gently from the west to heights varying from 1,500 to 2,500 feet. The only mountain range lies close to the sea along the northern half of the Atlantic coast with summits rising from 3,000 to 6,000 feet above the ocean.

Geology.— The crystalline rocks which form the peninsula belong to the earliest crust of the earth, the newest dating back to Huronian time. Since then the plateau has stood continuously above the level of the sea and has been subjected to the degrading action of atmosphere and stream. Great thicknesses of rock became rotten and rains and small streams removed much of the loose material from the heights to the depressions while the larger

rivers cut deep valleys into the granites and other hard rocks. In recent geological times a thick cap of ice covered the peninsula moving slowly outward from the interior. This motion of the ice removed the rotted rock from the hills and deposited it in the valleys, thus blocking many of the deep river valleys and reducing the surface of the interior to a general level with a gentle slope toward the coasts. No physical changes have occurred since the melting of the ice-cap and the interior country is still slightly undulating with low ridges of rock, or of glacial drift separated by wide, shallow valleys.

Lakes.— Myriads of lakes, great and small, occupy the lower parts of the valleys and are connected by networks of streams so that canoe travel is possible in any direction. Mistassini and Michigamau having areas exceeding 500 square miles are the largest, while dozens of others range in surface-area from 50 to 250 square miles.

Rivers.—The rivers in the central portion flow in the depressions without distinct valleys and in fact are chains of lake-expansions connected by short stretches of rapids. As they approach the coast they fall into their ancient valleys cut deep below the surface of the plateau. The descent is usually abrupt and is often accompanied by a great development of power and beauty. The Hamilton River, one of the largest streams of Labrador, falls from the surface of the plateau into its ancient valley about 200 miles above its mouth. The descent of 900 feet is accomplished in a distance of less than 10 miles and includes one direct fall of 315 feet where the river shoots from a gigantic trough into a circular basin at the head of a narrow canyon in which the last part of the descent is made. A rough estimate of the energy developed by the water in this descent gives the enormous sum of 9,000,000 horse power. This wonderful display of energy and the grand beauty of the fall and canyon place the Grand Falls of the Hamilton among the marvels of the world. With light rock-cuttings the river might be diverted into a side channel, where, passing through small lakes, it would fall sheer 700 feet into the ancient valley; this actually happens on a small scale when the river is in freshet.

Climate.— The climate of Labrador varies from cold temperate in the south to Arctic on the northern highlands and about the shores of Hudson Strait; it is generally so rigorous that it is doubtful if the country will ever be fit for agriculture except in the southern valleys and on the low lands fronting the southern part of Hudson Bay. In the interior the mercury often drops to —50° F. during the winter.

Forests.— The southern half of the peninsula is included in the sub-Arctic forest belt, which contains the following trees: White birch, aspen, balsam, poplar, cedar, banksian pine, white and black spruce, balsam fir and larch. The forest is continuous over the southern interior; to the northward of latitude 54° N. the higher hills are treeless, open glades appear and the trees branch from the ground. Proceeding north the size and number of the treeless areas increase rapidly until trees totally disappear on the northern third. At least one-half of the forests has been destroyed by frequent fires.

Resources.—Among the resources of the peninsula are the fur-bearing animals, all prized for their dark glossy pelts and all fairly numerous throughout the region. Of these the most valuable are the silver fox, marten, otter, mink, beaver, cross, red and white foxes and white and black bears. The barren-ground caribou of the interior and seals along the coasts are the chief source of animal food for the natives.

Fisheries.— The cod and salmon fisheries of the Atlantic coast have long been sources of wealth to Newfoundland. The fisheries of Hudson Strait and Hudson Bay are still undeveloped, but enough is known of them to predict their future great value. All the lakes and streams of the interior swarm with superior food fishes, including land-locked salmon, lake and brook trout, whitefish, pike and pickerel.

Minerals.— The mineral wealth of the peninsula is totally undeveloped. Immense deposits of valuable iron ore have been found in the interior and along the northern and western coasts. Over great areas are found rocks similar to those from which the more precious metals — gold, silver, copper and nickel — are taken in southern parts of Canada and they only await discovery by the prospector.

Population.— The total population is about 14,000, of which 8,000 are whites, living along the southern and eastern shores. The remaining 6,000 are Indians and Eskimos, the former being confined to the wooded country, while the Eskimos live along the northern coasts and on the northern barrens of the interior.

Government.—A strip of land along the Atlantic coast, extending from Blanc Sablon on the Strait of Belle Isle to Cape Chidley, is under the jurisdiction of the government of Newfoundland. The province of Quebec has jurisdiction over the remainder of the peninsula.

A. P. Low,
Of the Geological Survey of Canada.

LABRADOR DUCK, a rather small, handsome sea-duck (*Camptolæmus labradorius*), allied to the eiders, of the northeastern American coast; it bred in Labrador, and migrated in winter as far south as Chesapeake Bay, but was never very numerous, and became extinct about 1875, leaving only about 35 specimen-skins in the museums of the world. No very satisfactory theory exists to account for the closure of the species, since the fault does not seem chargeable to excessive shooting or disturbance of breeding-places. The race seemed to be waning, and an epidemic of disease or some weather-disaster destroying many eggs and young may have been a final blow. The last one seems to have been killed in 1875. Consult Stejneger, 'Birds' (Vol. IV, of 'Standard Natural History,' 1885); Lucas, 'Annual Report Smithsonian Institution,' 1888; Dutcher, article in *The Auk* (January 1894).

LABRADOR TEA, or MARSH TEA, either of two species of heath of the genus *Ledum* (*L. latifolium* and *L. palustre*). They grow in the northern parts of both Europe and America, and are low shrubs with alternate entire leaves clothed underneath with rusty wool. The fragrant crushed leaves are used by the natives of Labrador as a substitute for tea, and were used by Franklin in his expedi-

tion of 1819–22. They possess narcotic properties, render beer heady and are used in Russia in the manufacture of leather, yielding an oil known to druggists as ledum oil, rich in tannin and resinous properties. The plant finds a place in medicine as an astringent and tonic.

LABRADORITE, a plagioclase feldspar of the albite-anorthite series, corresponding chiefly to Ab_1An_1. (See FELDSPARS). It is, therefore, a silicate of aluminum, calcium and sodium. It has a hardness of 5 to 6 and a specific gravity of 2.73. It ordinarily occurs in cleavable or granular masses, or as an essential constituent of certain basic eruptive rocks, such as norite, gabbro, diabase, basalt, dolerite or andesite. In these it is associated with some member of the pyroxene or amphibole groups. Labradorite abounds in the Adirondacks, but its type locality is along the coast of Labrador, where it occurs in pure masses of enormous size which exhibit a wonderful change of colors, from dull gray to a gorgeous blue, or more rarely green, copper-red, purple or yellow. It has been used as an ornamental stone, especially in inlaid work.

LABRIDÆ, a family of marine fishes, the wrasses, representing the highly specialized suborder *Pharyngognathi* by a large number of beautiful and useful species inhabiting all the warmer seas, and traceable as far back as the Eocene period. These are brilliantly colored fishes, usually elongate in form and of large size, with cycloid scales and thick fleshy lips. There are powerful teeth on the margins of the jaws, but none on the palate; while the united lower pharyngeals are much thickened and form a plate beset with rounded, rarely acuminate grinding-teeth. The upper pharyngeals are usually separate, bearing similar teeth. Jordan enumerates 60 genera and 450 species, "chiefly of the tropical seas, living among rocks or kelp." The typical genus *Labrus* is almost wholly European. The principal genera represented in American waters are *Ctenolabrus* (cunners), *Tautoga* (tautogs), *Harpe* (ladyfishes), *Pimelometopon* (fatheads), and *Iridio* (doncellas); and by some authors the parrotfishes (*Scaridæ*) are included.

LABUAN, lä-boo-än', an island of the Malay Archipelago, in the administration of the Straits Settlement, belonging to Great Britain, situated 6 miles off the northwest coast of Borneo; about 12 miles in greatest length by 7 miles in greatest breadth; area, 28½ square miles. It is mostly low and marshy, and not very fertile; the climate is hot and humid, but the island is well supplied with water with an annual rainfall of 168 inches, and has a good harbor at the settlement of Victoria (the capital; pop. 1,500) on its southeast side. Coal of excellent quality is plentiful, and has been mined for many years. Pop. estimated, 6,746, mostly Malays.

LABURNUM, GOLDEN-CHAIN, or **BEAN-TREE,** a genus of trees and shrubs of the order *Leguminosæ*. The few species, which are natives of southern Europe and western Asia, are characterized by trifoliate leaves and brilliant yellow blossoms in pendulous many-flowered racemes produced during late spring and early summer. The larger species yield a very hard, heavy, tough, fine-grained, dark green or brown wood, which can be highly polished and is valued for inlaying, cabinet work, turning, etc. The species are also prized for ornamental planting in shrubberies, not only for their flowers, but also for their glossy foliage, which remains green until late in the autumn. No part of the plant is relished by insects, and all parts, but particularly the seeds, are reputed poisonous, containing cytisine, a purgative and narcotic. Nevertheless the young stems are greedily eaten by rabbits and hares, and may thus be made to serve as a sacrificial protection to other shrubbery. The best-known species, probably, is the English laburnum (*L. vulgare*), which sometimes attains a height of 40 feet but usually not more than 20 feet. It is hardy nearly as far north as Massachusetts. The Scotch laburnum (*L. alpinum*) is hardier, more erect and rigid, bears broader leaves and much longer and slenderer racemes of dark yellow flowers, and continues in blossom about two weeks later than the preceding. In America they are known as golden-chain or bean-tree. By some botanists it is considered only a form or variety of *L. vulgare*. Laburnums thrive in any well-drained soil in either partial shade or full sun. They are readily propagated by seeds generally spring-sown, and also by layers. Choice varieties, of which there are many, are grafted upon seedlings.

LABYRINTH, a structure having many intricate, winding passages; specifically, the legendary labyrinth of Crete, out of which no one could find his way, but became the prey of the Minotaur. This Greek legend has been interpreted as a sun-myth, and in various other ways, but excavations in Crete since 1900 have shown its foundation in fact, and have localized the labyrinth beyond reasonable doubt in the ruined "palace" of the Minoan kingdom at Knossas, near Candia. Minos may probably be regarded as a title, like Pharaoh or Cæsar, for a line of kings; but the legend of the Minotaur seems to refer to an individual, one of the sea-kings of Crete whose period was about 2000 B.C. This king's son, according to the legend, went to Athens to contend in the games, and becoming victor was murdered by direction of the Athenian king, Ægeus. Thereupon Minos sent a fleet which subjugated Athens. One condition of the peace was that thereafter, in every ninth year, seven youths and seven maidens should be sent to Crete by Athens, to become the prey of the Minotaur—a monster half human, half bull. When the second time for this ghastly tribute arrived a hero of great prowess, Theseus, volunteered to go. Arrived in Crete he and his companions were immured in a great prison—the Labyrinth; but Ariadne, the daughter of Minos, enamored of Theseus, gave him a sword with which to kill the Minotaur, and a thread to unwind as he was led into the prison-maze, by means of which he could find his way out. The plan succeeded. Theseus and his fellow captives escaped, and the tribute ceased.

When the royal house at Knossas came to be excavated, first by Dr. A. J. Evans in 1900, it was found, "with its long corridors and repeated succession of blind galleries, its tortuous passages and spacious underground conduit, its bewildering system of small chambers," that it does, in fact, present many of the characteristics of a maze. Throughout the ruins of

this and all other Minoan buildings, the design called the "double ax" is very prominent in decoration; and it is known that this symbol of divinity and royalty was named "labrys." The coincidence of this term with "labyrinth," together with other evidences of the connection of ideas, makes indubitable in the minds of antiquaries that the labyrinth of the legend was this very building. The chief god of the Minoan cult was represented as a bull. Once every nine years the reigning king was obliged to go into the Dictæan Cave (near the present town Lyttos) and renew communication with heaven. It is thought probable that human sacrifices may have been offered to the divinity in the cave on these occasions; that probably captives would be slain rather than citizens; and that the Athenian youths were destined to this sacrifice. Another theory is that vigorous war-captives were reserved for the national sport of the bull-ring, in which an athlete seized by the horns a charging bull, then skilfully vaulted to safety over the animal's back. Both men and women acted in this dangerous "bull-grappling"; and captives were probably kept and trained as toreadors for the amusement of the populace.

A vast and wonderful temple in Egypt, constructed by Amenemhat III at Hawara, about the time when the Minoan kingdom was in the height of its power, came to be called Labyrinth by the time Herodotus visited it, evidently in allusion to the similarly vast and complicated edifice at Knossas. More recent labyrinths are small, and often merely ornamental in their purpose. That at Clusium, in Italy, was erected by the Etruscans, according to Varro, for the sepulchre of King Porsenna. Imitations of labyrinths, called mazes, were once fashionable in gardening. They were made of hedges; the best known is that at Hampton Court, near London. Consult for the Cretan labyrinth, besides the reports of exploration, Mosso, 'Nu Palaces of Crete'; Baikie, 'Nu Sea-Kings of Crete' (London 1913).

LABYRINTH, The. In 'The Labyrinth' ('Le Dédale'), played in 1903, Paul Hervieu, the most logical and abstract of contemporary French dramatists, has developed a theme suggested five years earlier by Brieux in 'The Cradle' ('Le Berceau'). What, both writers ask, will be the results of divorce and remarriage when a wife meets again her first husband at the sick bed of their child? Will she revert to the first husband or remain true to the second? Will the husbands contend to the death or be reconciled? According to both playwrights, the wife's reversion to the father of her child is inevitable, but Hervieu has sharpened the conflict and given it a tragic conclusion. Marianne, having divorced her temperamental Max, has married the brusque but correct Guillaume. Max resents the rigorous education proposed for his son by Guillaume, and Marianne, to avoid legal complications, agrees that the boy shall visit his father. During this visit, little Louis falls ill, and Marianne, summoned to attend him, is thrown daily into the closest companionship with her former husband. In their mutual relief after an agony of anxiety, they forgot everything except their original love. When Marianne confesses her error to her parents and to Guillaume, the latter is enraged, but her mother excuses her deed as only natural. Since divorce is religiously unlawful, Marianne has never been truly wedded to her second husband. Guillaume is now ready to renounce her, upon condition that Max will do as much. But Max, refusing, taunts his rival; and, as the two men clinch, they fall from a cliff into the Rhone. Although the play is strongly emotional in its crises, it is little more than the illustration of an idea, every word and scene being nicely adapted to that end. Its characters live only to confirm the playwright's thesis. The piece was played in English in 1905; it may be read in the translation of B. H. Clark and L. MacClintock, published in 1913.

FRANK W. CHANDLER.

LABYRINTHODONTA, or **STEGOCEPHALI,** a group of primitive four-footed animals, forerunners of modern amphibians and reptiles, whose remains are found fossil in Peruvian, Carboniferous and Triassic strata, and which are the oldest known lung-breathing terrestrial quadrupeds. They were first discovered through finding their footprints imprinted in the Triassic rocks (Keuper beds) of Germany, long before the actual fossilized remains were brought to light. The footprints were described at first as those of a hypothetical form to which the name *Cheirotherium* ("hand beast") was given. As geological science and research progressed, the remains of the labyrinthodonts were discovered, when a comparison of their structure with the footprints showed that some of the latter were made by these creatures; many of the tracks, however, are unidentified. Later, when a great variety of related remains had been discovered, the term *Labyrinthodonta*, which relates to the curious "labyrinthine" infoldings of the enamel-wall of the teeth, was restricted to a single group or suborder (also called *Stereospondyli*) within the general amphibian order *Stegocephalia*. This suborder contains highly developed and mostly large forms, characterized by the complication in tooth structure above mentioned, and by co-ordinate anatomical distinctions. The principal genera are *Laxomma, Trematosaurus, Metopias, Capitosaurus, Mastodonsaurus* and *Labyrinthodon*, the last including the most recent forms of the Upper Trias, at the close of which period the group appears to have become extinct. See STEGOCEPHALIA.

LAC is the product of one of the scale-insects (*Coccus*, or *Tachardia, lacca*) of the family *Coccidæ*, which is the source of an important Oriental industry. This species, like other scale-insects, multiples with amazing rapidity, and feeds in compact colonies of tens of thousands, carrying the twigs of certain trees, especially the banyan or "religious" fig and related species of Fious, the dhak (*Butea frondosa*) and some other trees in India and Assam, and on privet trees in Yunnan and Szchuen provinces in southwestern China. Inserting their beaks into the bark females of these insects suck the sap, a large part of which passes out as excrement, transformed into a sort of resin that accumulates over the insect's back and forms the "scale." The scales of the crowded insects coalesce at their edges into a continuous layer over the slender branch on which they are feeding, and such a branch, cut

off, is known as «stick lac.» By tieing a few of these sticks on fresh parts of trees the natives induce the insects to spread to and over fresh branches, and thus obtain two crops a year. The industry is a very ancient one and gives a living to a large number of people; and the value of lac products exported from India alone approaches 35,000,000 of rupees (about $17,500,000) annually. The best lac comes from Bengal and the central provinces.

The original method of preparing the lac for use and market was by pulverizing the insect-covered twigs, at the proper time, and placing the fragments in hot water. This separated the scales from the wood, softened the resin, and dissolved the coloring-matter of their interior tissues, especially strong in the egg-sacks. The remains of the insects are then taken out and dried; and this operation of washing and drying is repeated until the resin from the melted scales is (or ought to be) entirely colorless. The mass is then put into a bag of coarse cotton cloth which is held near enough a fire to melt the lac, and is squeezed by twisting. The melted resin drips on small sticks arranged to receive it, and congeals into thin, light-colored, transparent flakes called shell-lac, the shellac of commerce. Large and small drops falling on the ground form button-lac, lump-lac, and so forth. Latterly this work has been done by machines made to grind the sticks, and melt and wash the material in steam-heated apparatus, which quickens the process and improves the product.

The water in which the first washings are made is deeply reddened by the dissolved coloring-matter in the insects. This water is saved, strained and evaporated, or cleared by the aid of alum, and the residue is deposited. This, when dried, is molded into cakes that furnish a rich dye. Previous to the invention of aniline colors this was very valuable, but now, like cochineal, it has nearly disappeared from trade. It furnishes, however, the basis of many "lake" tints among artist's colors, particularly the exquisite carmine-lake. "Lake" is a modified form of the Sanskrit (and modern Hindu) word *lak*, or *lac*, which means a hundred thousand, and here refers to the multitude of insects in a colony; it is also familiar to us in the financial term *lakh*, meaning 100,000 rupees.

Lac is of great value for making varnish, because easily dissolved, furnishing a hard coating susceptible of fine polish, and easily taking a dye. The Indian, Burmese and Chinese use it for making and coating ornaments, and various artistic objects, usually rich in color. It also enters into the composition of the fancy sealing wax sold by stationers, and serves other useful purposes; but it must not be confounded with lacquer (q.v.), an Oriental vegetable product that resembles lac, when applied as a coating of boxes, bowls, etc.

LAC, or **LAK**, from the Sanskrit *lakshâ*, or *laksha*, that is, 100,000. In the East Indies it is applied to the computation of money. Thus, a lac of rupees is 100,000 rupees. A lac is equal to about $46,350. A lac of Sicca rupees was equal to about $50,000; 100 lacs, or 10,000,000 rupees, make a *crore*. In 1835 the British government remodeled the currency of India, establishing a more uniform system, and the value of the rupee is now fixed at 32 cents (15 to the sterling £), divided into 16 annas of 12 pies.

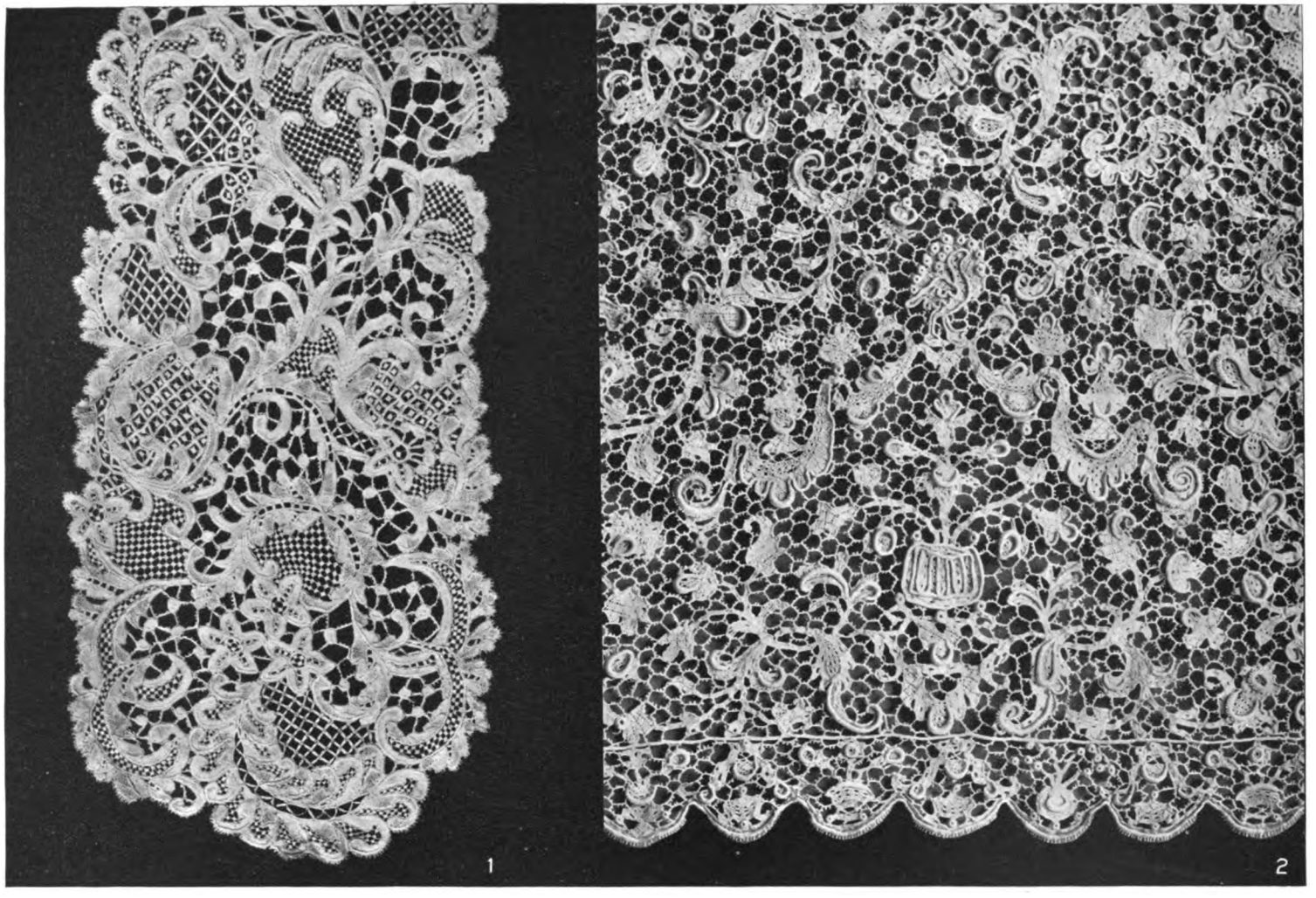
LACAILLE, Nicolas Louis de, nē-kō-lä loo-ē dē lä-kä-ē, French mathematician and astronomer: b. Rumigny, France, 15 March 1713; d. Paris, 21 March 1762. He was educated for the Church, but soon renounced theology for astronomy. He took an important part in the work of measuring an arc of the meridian, and in 1746 was appointed professor of mathematics in the Collège Mazarin. In 1751 he went to the Cape of Good Hope at the expense of the government, where he determined the position of some 10,000 stars with wonderful accuracy. As his departure from the Cape was delayed, he employed the interval in measuring a degree of the southern hemisphere. His works on geometry, mechanics, astronomy and optics were numerous. Among them are 'Leçons d'astronomie' and 'Astronomiæ Fundamenta'; 'Cœlum Australe Stelliferm'; 'Journal historique du voyage fait au Cap de Bonne Espérance.'

LACANDONES, lä-kän-dō'nēs, an Indian tribe living in Guatemala and Mexico. At one time numerous and powerful, they waged war against the whites. They are now about 300 left, of whom a part are friendly to the white people, though retaining their native customs.

LACAZE-DUTHIERS, Henri de, lą'kąz-dü'tyā, French comparative zoologist: b. Montpozat, 15 May 1821; d. Las Fous, 21 July 1901. He studied medicine at Paris and received (1854) the degree of professor of zoology at Lille, and was appointed to the chair (1865) of zoology at the Paris Museum of Natural History and (1868) at the university there. He edited, from 1872, 'Archives de zoologie générale et experimentale,' and directed the Zoological Station at Roscoff, which he founded (1873) on the Brittany coast. In 1881 he started the *Laboratoire Arago* at Banyuls on the Mediterranean. For a number of years he devoted his researches to the study of the comparative anatomy of aquatic life, especially molluscs, and wrote, among other works, 'Histoire naturelle du Corail' (1864); 'Le monde de la mer et ses laboratoires' (1889). His letters to Alexander Dedekind appeared in 1902 (Paris).

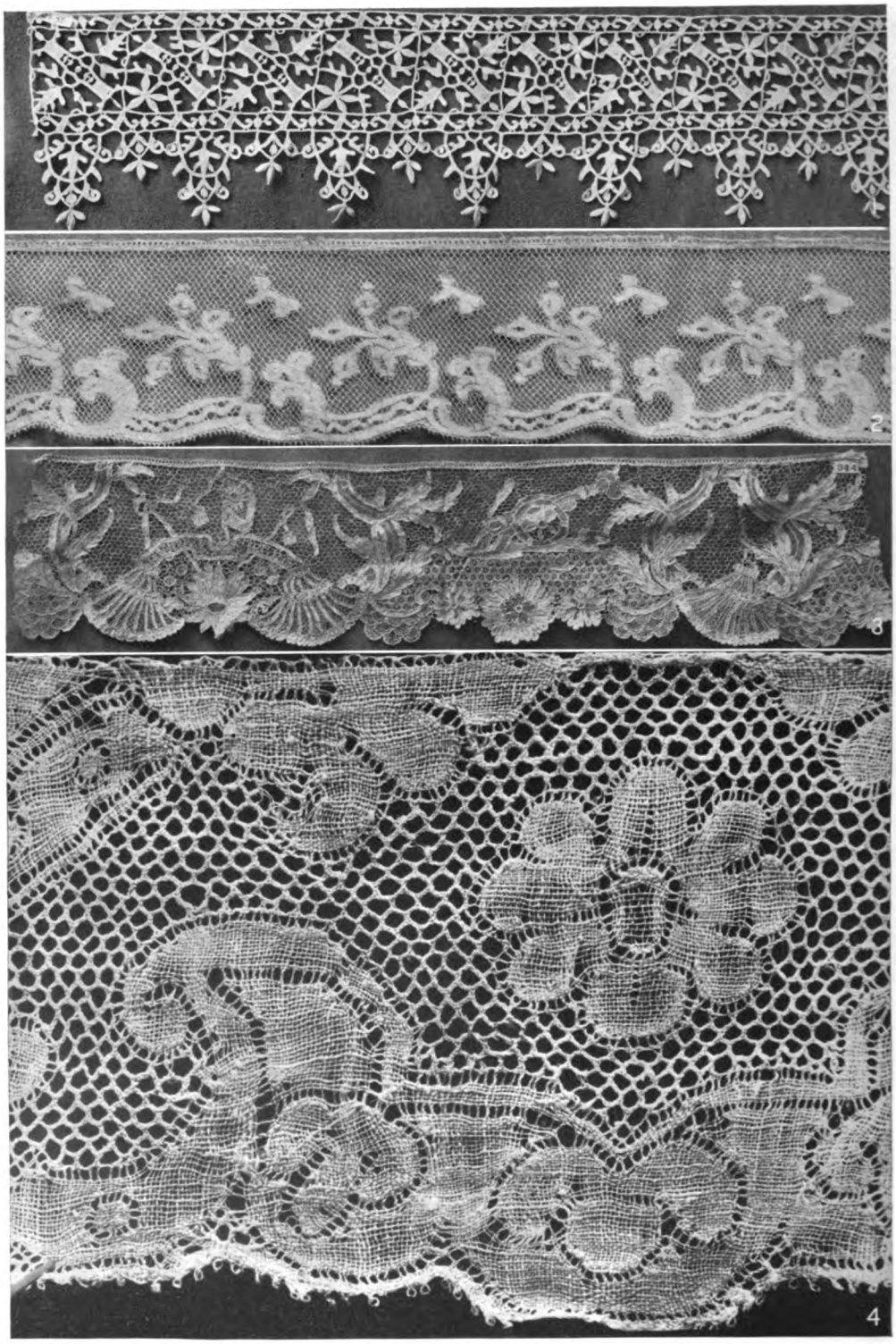
LACCADIVE (lăk'ą-dīv) **ISLES,** a group of small coral islands in the Indian Ocean, about 200 miles off the west coast of Malabar and politically part of the Madras Presidency. They form 17 separate reefs, containing, however, but 14 islands, only 9 of which are inhabited. The surface soil is naturally so barren that there is little or no spontaneous vegetation on the majority of the islands, and their prosperity must ever depend on the cultivation of the coconut. The natives of these islands, a race of Mohammedans called Moplas (of mixed Hindu and Arab descent), are mild and inoffensive and dwell in low, thatched, stone-built houses, and live poorly. Vasco de Gama discovered these islands in 1498. They were ceded to the British in 1792. Pop. 10,600.

LACCOLITH, lăk'ō-lĭth, or **LACCOLITE** (Greek, "stone-pit"), a mushroom-shaped mass of molten rock which has been forced along bedding planes, between layers of sedimentary rock, and which has arched up the overlying beds into a dome. It differs from a sill in that a sill does not produce doming of the over-



1 English 1780 Honiton bobbin

2 French early 18th century needlepoint. Flounce-Point de France detail



1 Italian 16th and 17th centuries needlepoint
2 French late 18th century Valenciennes bobbin
3 French early 18th century needlepoint. Point d'Argentan
4 French late 18th century bobbin. Valenciennes — enlarged detail

lying bed. The Henry Mountains of Utah afford a famous example of a group of laccoliths.

LACE, a cobweb background of threads with delicate patterns of flowers, figures and scrolls, also of threads, and used for ruffs, cuffs, collars, caps, scarves, handkerchiefs, cravats and aprons, and to trim articles of clothing, was first made in the 16th century. It reached perfection in the 17th and 18th centuries and deteriorated after the introduction of machinery. The word comes from *lacis,* meaning braid. The translators of the Bible used the word *lace* to denote braid. This definition survives in the gold and silver lace on uniforms and liveries. What is now called lace was anciently called "cut-work," "purls" and "points." It was also known as *passament* or *passement;* and *passement dentelé* (from the French *dent,* tooth) occurs in the inventory of Henri II of France (1547–1559). *Dentelle de Florence,* occurring in an inventory of 1545, introduces the French word for lace — *dentelle.* The word *guipure,* applied to all large patterned and coarse laces which have no threads joining pattern to pattern and no delicate net background, was also anciently used for braid. The tape guipures of Italy and France were famous. Before the days of point-lace and pillow-lace people wore "cut-work" and "drawn-thread work," also known as *reticella, point gotico* and *needle-point gotico.* Its effect is much the same as that of diaphanous lace.

Reticella, or cut-work, originated in the Ionian Islands and spread thence to Italy and throughout Europe. Reticella was made from about 1480 to 1620. The patterns, handed down for generations, are stiff and geometrical and consist of circles, triangles and wheels, often decorated with tiny, spiky knots. Reticella was largely used for collars and cuffs and to edge ruffs and handkerchiefs. It appears in portraits of the 15th and 16th centuries and in old pattern-books. *Lacis,* which also antedated filmy lace, was the darned netting, or "spider-work," known as *filet.* It was popular in Italy. One of its names is "Siena Point." The pattern was darned with the needle upon a plain ground of coarse net. *Lacis* was made in squares and stripes and then joined. It was much used for household decoration. Catherine de'Medici had a bed draped with such squares. *Lacis* was sometimes combined with *reticella,* as the pattern book of Isabella Catanea Parasole (1616) shows.

Filmy lace appeared in the 16th century and in Italy. Antiquaries have sought in vain for its origin. It was probably an effort to imitate by woven threads the exquisite cut-linen that had reached perfection in Italy. There are but two classes of this diaphanous fabric: one, made with the needle; the other, with bobbins. The first variety is called *point-lace,* or *needle-point;* and the second, *pillow-lace. Point* takes its name from the French *point* (stitch). The French call it *point d'aiguille* (point of the needle). By extension, "*point*" has been given to a few laces of high quality to denote their excellence, such as *point d'Angleterre, point de Valenciennes, point de Malines* and *punto di Milano,* which are not made with the needle, but are bobbin (or pillow) laces. This produces more confusion regarding the classification of lace, already made difficult by the term pillow-lace instead of bobbin lace. As the pillow is also used for making *point-lace,* the name pillow-lace is misleading; but the classification of *point* and *pillow* is, however, too well established to admit of any change. The technical words used to describe lace are French. In both *point* and *pillow* the groundwork consists of a net of fine threads called *réseau;* or, instead of this *réseau,* slender threads called *brides* connect the patterns with each other. These *brides* are sometimes tipped here and there with little spiky knots, called *picots.* The edge, or border, is often decorated also with these *picots.* In some laces the background consists of both *réseau* and *brides.* The solid part of the design is called *toilé.* In *point* there is but one kind of stitch,— the old familiar button-hole, or looped; and no matter from what country the lace comes, or how intricate, or how solid its pattern, or how fine its *réseau,* every stitch is the button-hole. If *brides* occur, they are also button-holed over, and if *picot* ornamentation is used, that, too, is button-holed over.

Pillow-laces are divided into two classes: (1) the pattern is first made on the pillow and the *réseau* filled in afterward; (2) pattern and *réseau* made in one continuous piece. Charles Blanc shows the difference as follows: "The dominant character of pillow-lace is the soft blending of its forms. The needle is to the bobbin what the pencil point is to the stump. The pattern softened when wrought in pillow-lace is depicted with crispness by the needle." Pillow-lace is produced by the intercrossing and plaiting of the threads which are rolled at one end around bobbins and fastened at the other upon a cushion by means of pins. Bobbins are elongated spindles, tapering and swelling into little handles. They are made of wood, bone, or lead. They vary in size according to the thickness of the threads; and the more delicate the lace the greater the number of bobbins. A pattern is pricked out by pins on the pillow to guide the worker. The pillow varies in size and shape.

Italian Point.— Italian Point lace, poetically called *Punta in Aria* (stitches in the air), was developed in Venice. The graceful scrolls and lovely flowers of the earliest lace resemble the arabesques of Persian ornament. Venetian Point is the richest and most beautiful of all laces. There are three classes: (1) Venetian Raised Point and Venetian Rose Point; (2) Venetian Flat Point (including the famous Coralline), and (3) Venetian Grounded Point (including *Punta di Burano*). Venetian Raised Point has large fantastic flowers issuing from rich scrolls and foliage in the Renaissance style. These designs are outlined with a heavy, padded thread, called *cordonnet,* button-holed over. The designs are connected by *brides* and often decorated with *picots.* Rose Point has smaller patterns and more *brides* and more *picots.* It has a whirling, snowy effect and is also called *Point de Neige* in consequence. (2) Venetian Flat Point has no *cordonnet;* but *brides* and *picots* are plentiful. Corallline Point represents a tangle of seaweed; and, though lacking in clear outlines, is extremely beautiful. Venetian Grounded Point has a net background. It was inspired by the new *Point d'Alençon,* which the

French had created in imitation of Venetian Raised Point. The pattern of Venetian Grounded Point is usually the lily and the edge is a shallow scallop. It has a *cordonnet*, stitched down around the outline of the pattern. Burano was the chief place where this Grounded Point was made, and it was manufactured there until the beginning of the 19th century. In 1872 Burano lace was revived under the patronage of the king and queen of Italy. The Burano makers copied the *Point d'Alençon* designs and also the square mesh of the *réseau*. The unevenness of the thread gives Burano ground a somewhat cloudy appearance, which aids in identifying it.

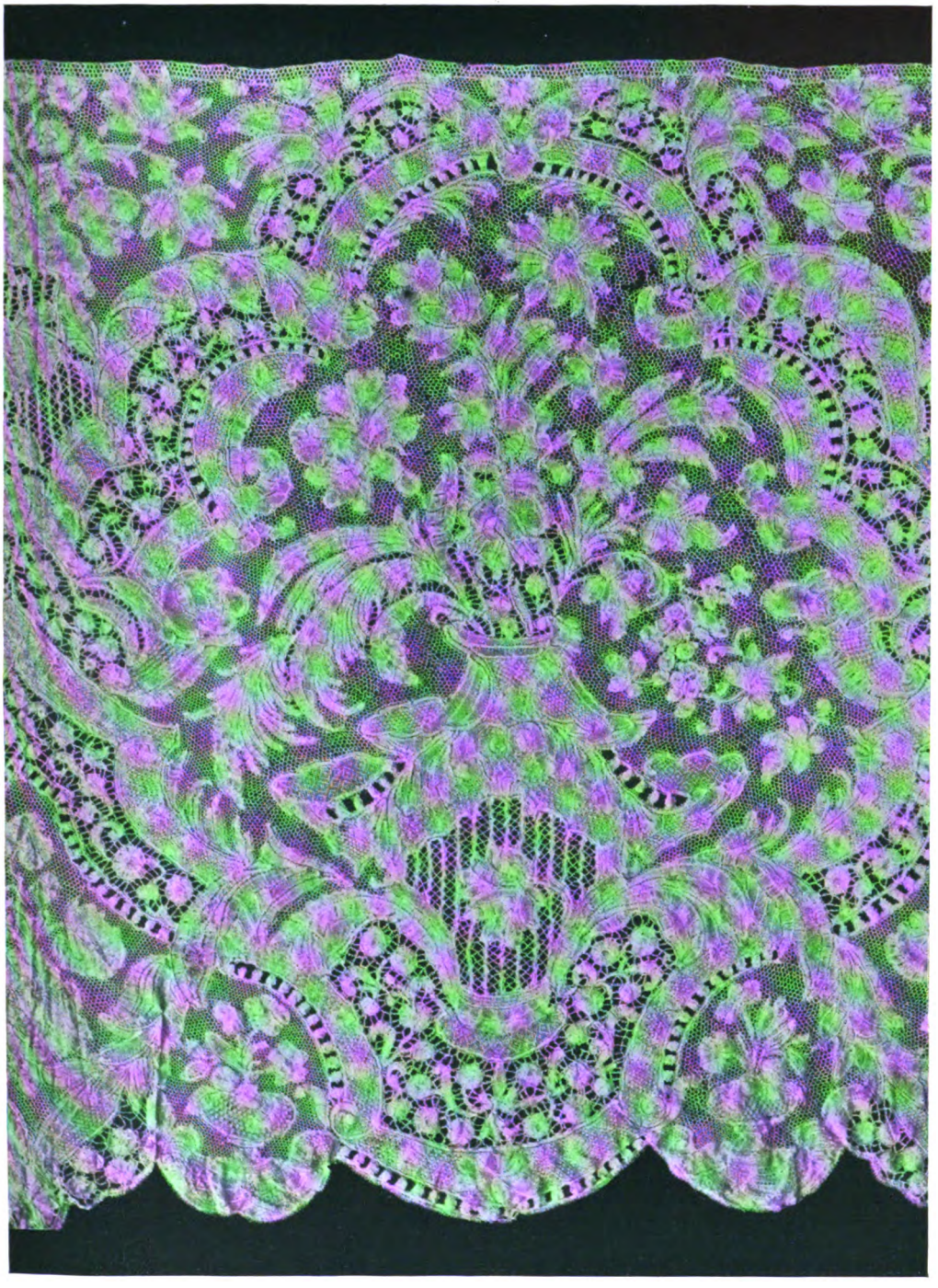
Italian Pillow Lace.— Milan and Genoa were also famous marts for lace. The most beautiful of all Italian pillow-laces is *punta di Milano*, or Milan point (the name describing the quality). The tape pattern was made first and the ground net-work filled in afterward. The meshes of this net are diamond shaped with a plait of four threads. The Genoese lace was of two kinds: (1) a "tape guipure," the tape arranged in spirals connected with *brides* and decorated with *picots*, and (2) pointed scallops decorated with little ornaments called "wheat-ears." Genoese lace was much used for collars and cuffs and appears in portraits by Rubens, Van Dyck, Rembrandt and Frans Hals, as well as in portraits by Italian masters.

French Point Lace.—"Venetian points," or "points," were bought by the wealthy and fastidious of high degree throughout Europe. To encourage home industry, Colbert, Prime Minister of Louis XIV, established a school at Alençon with lace-makers from Venice. *Point d'Alençon* was at first an exact imitation of Venetian Raised Point; but after a time the French invented a beautiful *réseau* in imitation of the bobbin net-work ground of Flemish lace. This was an entirely new idea, for point lace had never before been grounded on net; and, as noted above, the Venetians, hoping to win back their trade, imitated the *Point d'Alençon* in their Venetian Grounded Point, or *Point de Venise à réseau*. *Point d'Alençon* is called "the Queen of lace." It was first made in 1665. By royal decree it was called "*Point de France*." The effect of this lace is delicacy; but the wonder of it can only be appreciated by applying a magnifying-glass. How human fingers can execute such delicate and minute stitches is beyond understanding. The average size of a diagonal taken from angle to angle in an Alençon hexagon is about one-sixth of an inch and each side of the hexagon is about one-tenth of an inch. An idea of the minuteness of the work can be gathered from the fact that a side of the hexagon is overcast with 9 or 10 button-hole stitches. One characteristic of *Point d'Alençon* is a heavy outline (*cordonnet*) button-holed over horsehair, which makes it firmer and heavier than any other fine lace. The designs are flowers, foliage, scrolls and arabesques, in the style of the decoration of the period. Spots, tears, sprigs and insects were used for designs in the days of Louis XVI. The factory became extinct during the Revolution. It was revived by Napoleon, when Bonaparte bees were used for motives in combination with flowers. This superb lace has always commanded fabulous prices. The Empress Eugénie had a dress of *Point d'Alençon*, for which Napoleon III paid 200,000 francs ($40,000) in 1859. In later years she gave it to Pope Leo XIII, who wore it as a rochet.

Argentan was established at the same time as Alençon and also produced lace in imitation of Venetian Point. It can only be distinguished from Alençon after Alençon adopted the *réseau*. Argentan kept to the *bride* ground of a six-sided mesh worked over with button-holed stitches. The large *bride* ground could support bolder and larger flowers and in heavier and higher relief than the *réseau* ground. The *bride picotée* is also a characteristic of the Argentan Point. Checked by the Revolution, it was revived in 1810; but in 1830 cotton, instead of linen thread, was used and debased the quality. Argentan Point became rare about 1858 and the secret of making it was lost in 1869. Although France borrowed the technique of lace-making from Italy, she put her own stamp upon it, and gradually brought it to such perfection that both *Point d'Alençon* and *Point d'Argentan* enjoyed enormous vogue. Other workshops were founded at Le Quesnoy, Arras, Rheims, Paris and Sedan.

French Pillow Lace.— Ten years before Colbert made French lace such an item of trade Le Puy had become a centre for lace-making, and the Duchesse de Longueville, Condé's sister, had established lace-makers at Chantilly. Le Puy was the oldest lace-centre in France. It was noted for its thread laces and silk guipures. These guipures were made in bands, for which designs of geometric character, squares, stars and formal blossoms were used. Some of the Le Puy laces were known as "guipures de Cluny," from the Cluny Museum in Paris. Flax, silk, worsted, goat's hair and Angora rabbits' hair were used with equal facility at Le Puy.

Valenciennes is the most beautiful of all French pillow laces. Bobbin lace was made in Valenciennes in the 15th century, when the town belonged to Flemish Hainault. After Colbert founded Le Quesnoy the lace industry at Valenciennes revived and supplanted that in the neighboring town. Owing to the number of bobbins required, Valenciennes was the most expensive of all pillow-lace, though the workers who sat in dark cellars from four in the morning until eight at night, with only a little light concentrated on the pillow, received but a few pennies a day. Many went blind. A piece of lace "worked all by the same hand," therefore, was rare and commanded a large sum. In the town was made what the trade called "true Valenciennes" and in the suburbs "false Valenciennes" was produced. At the Revolution many workers fled into Belgium and settled in Alost, Ypres, Ghent, Menin, Courtrai and Bruges. Every town made a characteristic *réseau*. Valenciennes was revived, but the modern productions are not so fine as old Valenciennes. In the 18th century Valenciennes was much used for ruffles, cravats and trimmings. It was not regarded as a lace for full dress, nor was it a Church lace. Valenciennes is all made in one piece, the threads forming a continuous *réseau* and *toilé*. There is no *cordonnet*. The *réseau* is composed of circles in the earliest examples, but of squares in later examples. The flowers in early examples are tulips, anemones, iris, or carnations and have almost the appearance of cambric. Later specimens usually have



Flemish 18th century bobbin

1 Italian 18th century needlepoint in relief. Gros Point de Venise

2, 3, 4 Flemish 18th century bobbin

a scalloped border containing a leaf, petal or feather, and the *réseau* is sprinkled with dots. Machinery has imitated this lace very successfully and a vast amount of it is sold. It is commonly called "Val."

Chantilly.— Chantilly was also famous for its lace. After having produced lace of second-rate value of the Valenciennes and Mechlin type, Chantilly suddenly achieved reputation by making silk lace, especially black. The material used was a silk, called *grénadine d'Alais*. The peculiar twist in spinning these threads so diminished the lustre that people frequently imagine Chantilly is made of flax, dyed black. The *réseau* is a six-pointed star known as "*Fond Chant*," an abbreviation of Chantilly, often used by other workshops. Chantilly also used the Alençon ground and sometimes used the Alençon and the *Fond Chant* in the same piece. The patterns of old Chantilly (whether in white or black) were often of vases of flowers and other decorations similar to ornaments on Chantilly pottery. Chantilly lace ceased to be made during the Revolution, but was popular again under the Empire, when "blonde" lace became the rage in Paris. Chantilly was first made in bands and invisibly joined. After 1840 (in the reign of Louis Philippe) it enjoyed great favor and large pieces were made, such as shawls, fichus and bridal-veils, and smaller articles such as "*barbes*," parasol-covers, handkerchiefs, fan-mounts, etc. In the days of Napoleon III flounces and dresses and all other articles of Chantilly were made even more popular by the Empress Eugénie and they found a large market among wealthy Americans. In 1870 the workshops became bankrupt. Modern Chantilly is made at Calvados, Caen and Bayeux.

Bayeux.— Bayeux made exquisite black lace in which the elaborate patterns of flowers and other ornaments are rendered with the utmost delicacy of shading. At first Bayeux made lace in the Venetian style, then it followed the styles of Chantilly, and so beautifully that experts are puzzled to tell the difference. Many so-called "Chantilly shawls" were made in Bayeux, but are none the less valuable for that.

Blonde.— Blonde lace came in fashion about 1745. It was made of unbleached silk imported from Nankin, whence the name "nankins," as well as "blondes." Soon the French made it of white and black silk. Marie Antoinette gave it special vogue. Blonde lace was made at Chantilly, Le Puy, Bayeux and Caen. Spain almost made it her own lace; but old Spanish blondes do not equal those of Chantilly and Bayeux. Of blonde are made the Spanish mantillas that so gracefully drape the heads of the Spanish women. Those of white are worn on full dress occasions only; black blonde is used for "second-best." During the Second Empire, owing to the taste of the Empress Eugénie, the big Spanish floral designs were made in the French workshops. These patterns have never gone out of favor.

Spanish Lace.— Spanish blonde is the typical lace of Spain. Barcelona early attained a reputation for it and is still the centre for its manufacture. Comparatively little is known regarding Spanish lace, for it has not been studied so thoroughly as the lace of other countries. We know, however, that cut-work (*reticella*) and *lacis* were made in Spain in the 15th and 16th centuries and that "Spanish Point" was as celebrated in its day as the "Points" of Italy or France. Regarding it Mrs. Palliser says: "The sumptuous Spanish Point, the white thread arabesque lace, was an Italian production originally. It was imported for the Spanish churches and then imitated in the convents by the nuns, but was little known to the commercial world of Europe until the dissolution of the Spanish monasteries in 1830, when the most splendid specimens of nuns' work came suddenly into the market, not only the heavy lace generally designated as *Spanish Point*, but pieces of the very finest description (like *Point de Venise*), so exquisite as to have been the work only of those whose time was not money and whose devotion to the Church and to their favorite saints rendered this work a labor of love." A great deal of fine lace went to Spain from Flanders; for in the 16th century Flanders was a part of the Spanish domain and the Emperor Charles V, therefore, ruled both countries. He, a native of Ghent, preferred the Netherlands to Spain and brought here as much of his native atmosphere as possible. Tapestry-weavers, lace-makers, embroiderers, furniture-makers and other artists were transported in large numbers and Spanish workers were also sent to the Netherlands. Consequently, there was an interchange of styles between the two countries.

Flemish Lace.— Flanders was superior to all other countries in its flax and the fineness of the linen thread the people were able to produce. An immense quantity of bobbin (or pillow) lace had been made in this country from an early period, and also "tape guipure" (the tape following the lines of the pattern and connected by *brides*), lightened by holes called "bird's eye" (single, or arranged in groups). As soon as Alençon began to succeed, Flanders began to make artistic needle-point, too.

Brussels Point and Pillow.— The Needle-point made in Brussels from about 1720 closely resembled Alençon in pattern and in general effect; but it was not so firm, and the *toilé* was looser than Alençon and the button-hole stitched *cordonnet* (so distinctive of Alençon) was absent in Brussels. The fineness of the thread was almost fabulous.

It had to be spun in dark, cold, underground rooms, for light and heat were said to hurt it. The earliest patterns of Brussels Point resemble the Venetian and the Alençon designs; and as Brussels lace enjoyed such patronage at the French court it followed the ornamentation in fashion. Brussels lace of the days of Louis XIV shows the designs of Marot, Berain and Lepautre; in the days of Louis XV zig-zags, pagodas and Chinese figures appear; then come leaves and flowers (particularly the pink, tulip and rose), insects, birds, trophies, feathers and striped ribbons of the Louis XVI period; and then the pseudo-classic motives of the Napoleonic period, as well as flowers, sprigs, wreaths, columns, stars, crosses and spots. The palm and pyramid were also frequent during the empire. Brussels Needle-point was and is still known as *point gaze*. It is famous for the variety of its patterns, the great diversity of the "fillings" between them and its marvelous filminess. There were two kinds of grounds: the *réseau* (or net) and the *bride*. Sometimes, too, *réseau* and *bride* grounds are mixed in the

same piece. The *réseau* was made in two ways — by needle and with bobbins. Hence Brussels is sometimes both a *point* and a *pillow-lace*. There are also two ways of producing the flowers and other ornaments — with the needle and with bobbins. When the ornaments are made with bobbins on the pillow, the lace is called *point plat*. In old lace the plat flowers were worked in with the ground, for the "applied" method was unknown. "In the modern *point gaze*," according to Mrs. Palliser, "the flowers are made with the same thread as the ground (as in old Brussels). It is made in small pieces, the joining concealed by small sprigs, or leaves. Brussels *point de gaze* is the most filmy and delicate of all point-lace. Its forms are not accentuated by a raised outline of button-hole stitching as in *point d'Alençon;* but are simply outlined by a thread. The execution is more open than in the early lace and part of the *toilé* (heavy part of the design) is made in close and part in open stitch to give an appearance of shading. The style of the designs is naturalistic." The introduction of machine-made net (*tulle*), the famous "Brussels net," gave a new impetus to Brussels *point-gaze*, for the substitution of a machine-made for a hand-worked ground diminished the costliness, and such large articles as shawls and bridal-veils were multiplied. The flowers and other ornaments, after being made by hand, were applied on the net (sewn on delicately). Sometimes these were needle-point and sometimes bobbin-made (pillow). Great ingenuity, variety and skill were displayed in the fillings between these ornaments. Ghent and Alost, as well as Brussels, derived great profit from this kind of lace.

Point-plat appliqué is the name given to bobbin-made sprigs applied to machine-made net. Point Duchesse is also a Brussels lace. It is a bobbin (or pillow) lace of fine quality in which the sprigs (resembling Honiton) are connected by *brides*. Duchesse is a modern name. The lace resembles the old tape-guipure of Flanders, made at Bruges in the 17th and 18th centuries and much used for cravats.

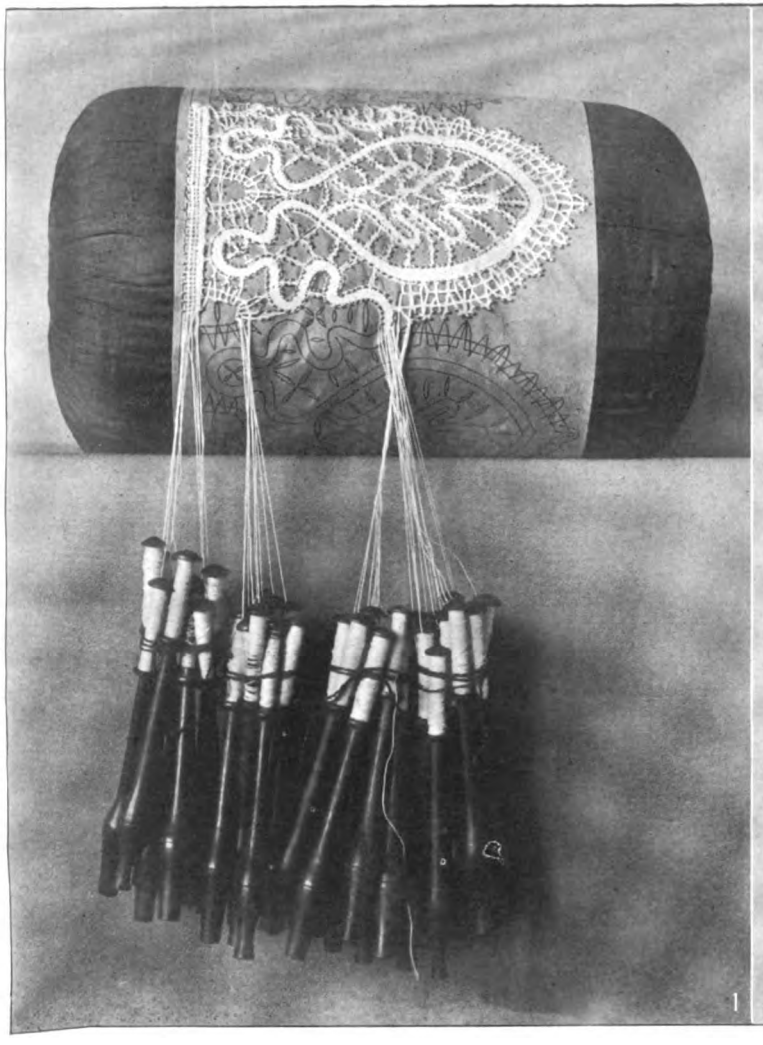
Mechlin.— Mechlin lace is ranked very high by connoisseurs. It is also called *Point de Malines*. Mechlin is made in one piece on a pillow with bobbins, the ground and the pattern being worked together with various fancy stitches. Its distinguishing feature is the *cordonnet*, here a flat, silky thread which outlines the pattern and gives this lace almost the character of embroidery. The hexagonal mesh of the *réseau* is made of two threads twisted twice on four sides and four threads plaited three times on the other two sides. Sometimes the pattern is "*fond de neige*," sometimes "*oeil de perdrix*" and sometimes *Fond Chant*. Very early Mechlin has *points d'Esprit* (little square dots); but this is rare. The characteristic pattern is a sort of sunflower, rose, or pink, in full blossom and also with closing petals. The border is a shallow scallop, or it is slightly waved. The flower appears on the edge and the rest of the ground is sprinkled with square spots, quatrefoils, or leaflets. The flower is Flemish in character and the powderings (*semés*) are French in style. Open spaces, filled in with *brides*, that make a kind of lattice-work, are characteristic and give Mechlin a charming delicacy. A four-petaled flower often fills in the spaces in the scrolls. Mechlin was always a costly lace. "It is without question," writes Lefébure, "the prettiest of all pillow-laces." Mechlin was in great request during the reign of Louis XV and the rococo style of ornament prevailed in its designs. To some extent, in their lightness and delicacy, they may be compared with similar patterns upon contemporary engraved glass from Saxony and Bohemia. Under Louis XVI, floral sprays and delicate interleavings were used in the patterns. No better lace can be found to assimilate with and adorn light textures, such as gauze and muslin. Our great-grandmothers showed appreciation of its appropriateness in using it to adorn their mountains of powdered hair. Mechlin was also made in Lierre, Turnhout and Antwerp.

Antwerp.—Antwerp was a great mart. Its distinctive lace had a vase, or pot of flowers, whence its name "*Potten Kant*." The blossoms are pinks, roses and sunflowers, and sometimes straggling branches are thrown from the flowers. The ground varies: sometimes it is the six-pointed star; sometimes the partridge eye, etc.

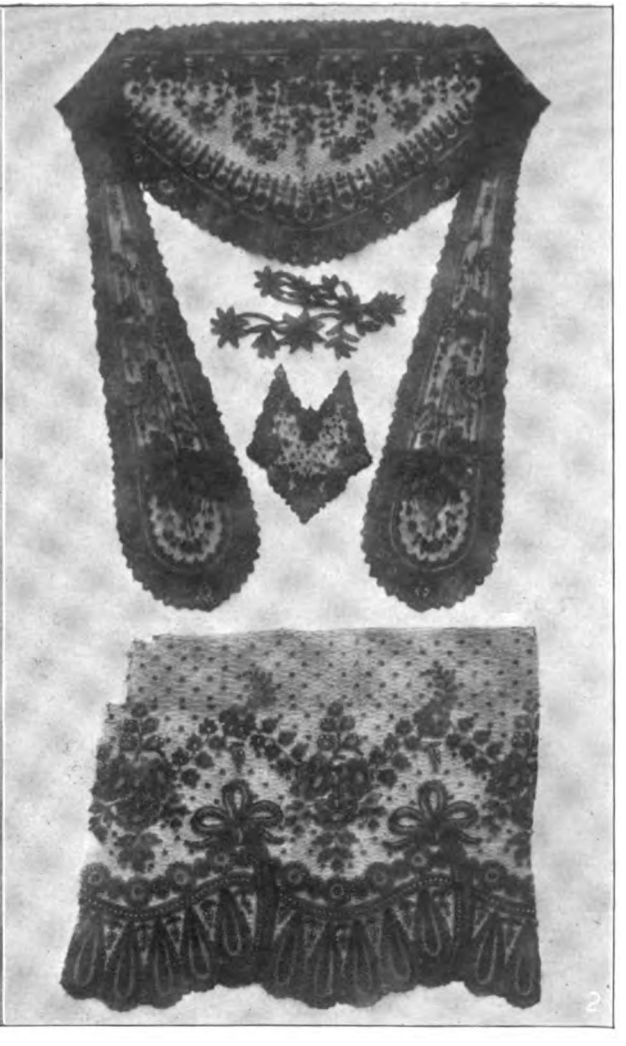
Lille, the old capital of Flanders, was not a French town until after the Treaty of Aix-la-Chapelle. Its lace resembles Mechlin. The chief difference is in the *réseau*, which is even lighter than that of Mechlin. It uses the *Fond Chant* (six-pointed star) and the "*fond simple*." Square dots, known as "*points d'esprit*," are also characteristic of Lille. The laces of Mons are also Flemish. Ypres, Alost, Coutrai and Bruges made lace of the Valenciennes type. Ghent, Binche, Liège and Saint Trond were also centres. In fact, for three centuries lace-making has been the chief industry of Flanders and of Belgium.

German Lace.— Germany claims the invention of lace. A tombstone in Annaberg reads: "Here lies Barbara Uttmann, died, 14 Jan. 1575, whose invention of lace in 1561 made her the benefactress of the Harz Mountains." Barbara Uttmann, wife of a rich mining overseer, however, learned to make pillow-lace from a Breabant exile. She set up a workshop in Annaberg, which employed 30,000 workers. French refugees in northern Germany (most of them from Alençon) improved lace-making there and Italians influenced work in Bavaria and Saxony; but German lace never acquired artistic reputation outside of Germany.

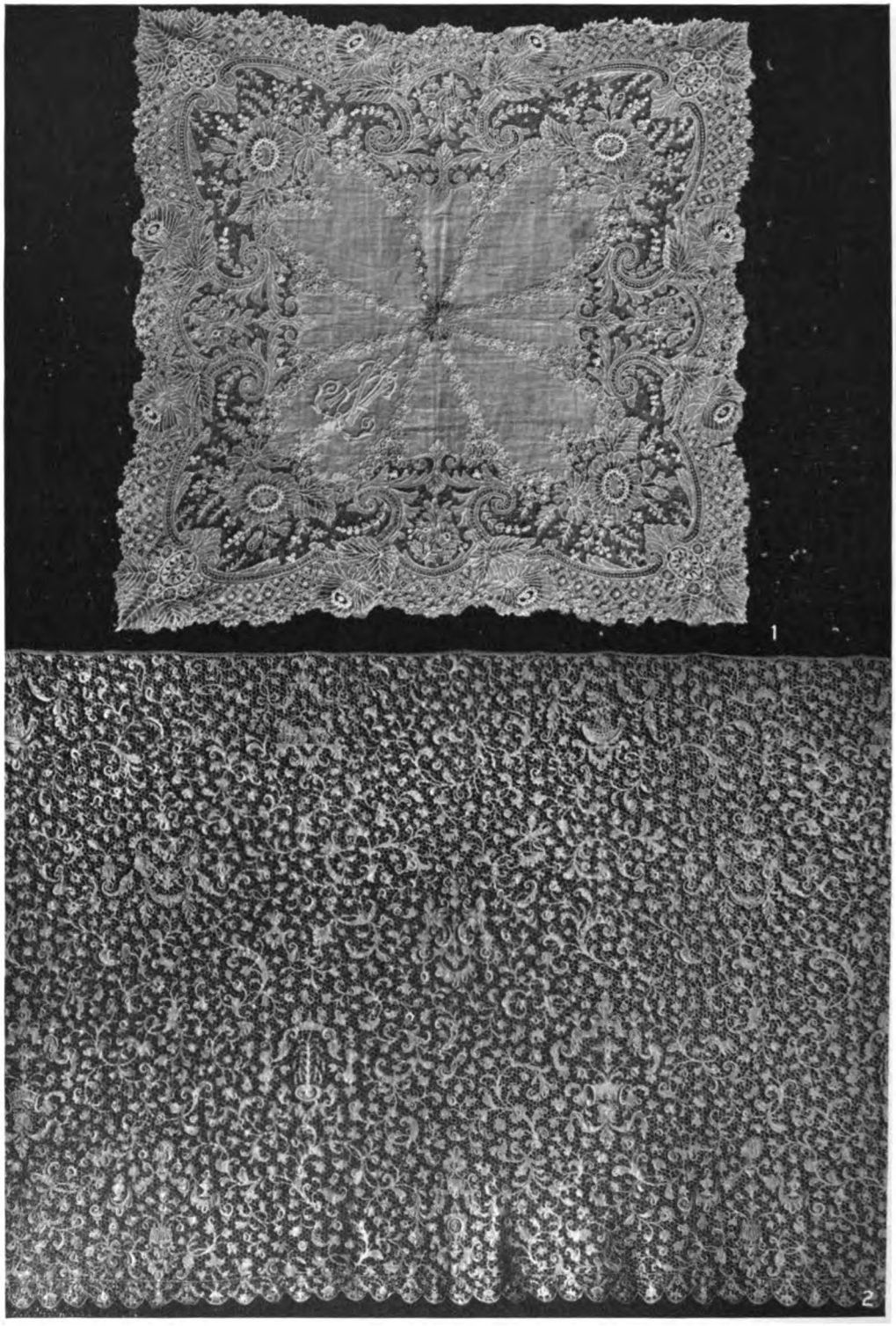
English Lace.— England was never a great lace-making country; but the wealthy lords and ladies purchased lavishly of the fine laces of other countries. English flax was poor in comparison with that of the Continent, which may have been the reason that Point lace was little made. Tudor inventories mention the fine "cutworks" and "points" of Italy, and no one had more of them than Queen Elizabeth. She also patronized fine Flemish lace. In her reign Flemish refugees, flying from the persecutions of Alva and the "Spanish Fury," carried the lace-making industry to Devonshire. Honiton was their chief settlement, and from this time onward we read of "bone-lace" in old Elizabethan literature, a name, of course, for bobbins (sometimes made of bone). In the second half of the 17th century Flemish Point supplanted Venetian and French in the estimation of the English. When Cromwell's body lay in state it was draped with superb Flemish Point.



1 Austrian 19th century pillow and bobbins



2 French 19th century bobbin, Chantilly black



1 Brussels 19th century needlepoint

2 French early 18th century needlepoint. Flounce-Point de France

The enormous demand for Flemish Point occasioned smuggling on such a vast scale that Parliament prohibited all importations of it. Then, to supply their customers, merchants bought lace in Belgium and smuggled it into England where they sold it under the name of *Point d'Angleterre,* or English Point; and under this name it often was taken to France and sold. This lace was Brussels Point. Flemish lace continued popular for a long time in England. Defoe makes Robinson Crusoe send from Lisbon "some Flanders lace of good value as a present to the wife and daughter of his partner in the Brazils."

Honiton Pillow.— The most famous English lace is Honiton. It resembles the old tape guipure of Flanders with open *brides.* The patterns are large and are made first and then joined. The "Honiton Sprigs" were (and still are) famous, although the poppy, butterfly, acorn, etc., have not always been of fine design. Honiton resembles in some degree the "Duchesse Point" of Brussels. It still keeps to the Flemish type. Its value was determined by covering a piece of lace with shillings. Queen Victoria's wedding-dress was of Honiton and cost £1,000 ($5,000). Honiton lace-veils, worth hundreds of guineas, are treasured heirlooms in America and in England. England has had two centres of lace-making: Devonshire; and the South Midlands (Nottingham, Bedford and Buckingham). In the latter town lace was made after the style of Mechlin, Antwerp and Lille, always grounded and never guipure (as in Honiton). Machinery for making lace was invented in Nottingham. In 1768 a workman, Hammond, conceived the idea of making a net tissue on a stocking-knitting machine. This was improved by Heathcote's bobbin net loom in 1809. The French then established manufactories in Lyons and Saint Pierre-des-Calais. In 1837 Jacquard invented his apparatus for fancy weaving; and an adoption of it to net-weaving machines produced tulles, *brochés,* or flowered nets. This gave a severe blow to hand-made lace. Buckingham and Nottingham have also been famous for their Yak lace, made from the wool of the Yak. The designs, following those of Malta and Genoa, are decorated with wheat-ears and resemble the ancient "cut-work."

Irish Lace.— Lace began to be an industry in Ireland in 1829–30 in Limerick and Carrickmacross. Limerick is a *tambour,* i.e., threads embroidered on net, and Carrickmacross is distinguished by patterns cut in cambric and applied on a net ground. Beautiful, ornate stitches like latticework are also characteristic of Carrickmacross. The style came from Italy. Vasari says it was invented by the painter Botticelli. Point lace, in the style of the 17th century, is now made at Youghal (County Cork), the chief centre, and also in Kenmare, Killarney, Waterford, Kinsale and New Ross. Linen thread of the finest kind is used and the meshes are so small that the stitches are almost invisible. Irish Point owes its existence to the failure of the potato crop in 1847. The Irish then tried to gain money by the Point Lace industry. It is a beautiful production and is worked entirely by the needle.

Peasants make pillow lace in every country, differing in style and pattern in every place. In many countries Torchon is made. This is also called "beggars'" lace. It has been imitated successfully by machinery. The knotted lace known as *Macramé,* made in convents in the Riviera, is taught by the nuns to the peasants. It is a survival of the old knotted lace made in Spain and Italy in the 15th and 16th centuries. It is tied with the fingers. *Macramé* is much used in Genoa. The name is Arabic in origin.

Of late years beautiful handmade lace has been produced in the United States in the newly established "lace-schools," particularly after Italian methods. Some of these schools are under wealthy patronage; others are connected with settlement work.

Lace is made in the Latin-American countries after the Spanish styles. In Fayal lace is fashioned out of the fibre of the aloe. In the Philippines lace is made from the fibre of the pineapple.

The machine-lace industry of Europe is centred in Paris, Lyons, Calais, Saint Gall, Nottingham and Plauen. The importations of laces and embroideries (including nets, veilings and curtains) at the port of New York during the years 1914 to 1917 were: March 1914, $3,164,594; March 1915, $1,810,376; March 1916, $2,306,618; March 1917, $1,388,262.

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ESTHER SINGLETON,
Author of 'The Art of the Belgian Galleries'; 'French and English Furniture,' etc.

LACE BARK, is derived from the inner bark of several species of trees and is readily detached in sheets or layers like birch bark, each layer being a delicate network of fibre, which when gently stretched a pentagonal or hexagonal mesh is formed which resembles lace. The most commonly known species is the lace bark tree of Jamaica, *Lagetta lintearia.* It is said that Charles II was presented by the governor of Jamaica with a cravat, frill and pair of ruffles made from this substance. The fibre can also be twisted into strong ropes and in past time thongs and whips were made from it, with which the negroes were beaten. The lace bark tree of New Zealand is an Australian species, *Plagianthus betulinus,* more commonly known as the ribbon tree; its layers of bark showing the same beautiful lace-like texture as the Jamaica form. Another species producing a delicate, white lace-like tissue is the Birabira of South America, *Daphnopsis tenuifolia.*

LACE BUG, vulgar name for some of the *Tingitidæ,* given on account of the gauze-like or lace-like meshes of the wing covers, lacking membrane and almost transparent, widely expanded beyond the body. A hood-like process, also filled with meshes, sometimes projects forward. The *Corythuca arcuata* is an example

of the group and is found in vast numbers on the under-sides of leaves of oak trees. It lays its eggs next the mid-rib and veins and stays there drawing sap from midsummer till frost. It measures about a sixth of an inch. The *Corythuca ciliata* abounds on the sycamore. They are both white.

LACEDÆMON, lăs-ę-dē'mŏn. See SPARTA.

LACÉPÈDE, Bernard Germain Etienne de la Ville, bār-nār zhār-măñ ā-tē-ĕn dė lā vēl lā-sā-pād, COUNT DE, French naturalist: b. Agen, France, 26 Dec. 1756; d. Epinay, France, 6 Oct. 1825. He abandoned the military profession, for which he was destined, and devoted himself to the study of natural history. His teachers and friends, Buffon and Daubenton, procured him the important situation of keeper of the collections belonging to the department of natural history in the Jardin des Plantes. In 1791 he was elected member of the Legislative Assembly and belonged to the Moderate party. Napoleon made Lacépède a member of the Conservative Senate and conferred on him the dignity of grand-chancellor of the Legion of Honor. After the restoration he was made peer of France. He continued Buffon's 'Histoire naturelle' with the titles 'Histoire des quadrupèdes ovipares et des serpents' (1788–89) and 'Histoire naturelle des reptiles' (1789) and published also 'Histoire naturelle des poissons' (1798–1803); 'Histoire des cétéces' (1804), etc.

LACERTILIA, lăs-ėr-tĭl'ĭą, or **AUTOSAURI,** the order of saurian reptiles which contains the lizards. These are distinguished from the serpents (*Ophidia*), to which they are most nearly allied by the fact that the right and left halves of the mandibles (lower jaws) are connected by a sutural symphysis, whereas those of serpents are connected by a more or less distensible cartilage. The great majority possess well-developed limbs, movable eyelids and cutaneous scales, covered by a horny epidermis, usually thin, but sometimes thick and rising into pointed projections. In a few degraded and burrowing forms the limbs have been greatly reduced, or one pair or even both pairs completely lost, while the eyes may have become buried beneath the skin and the scales nearly or wholly obsolete. The vertebræ are procœlous, except in some of the geckos, where they are amphicœlous; the ribs of the trunk articulate by their capitular heads only, the reduced tubercula being attached to the vertebræ by ligaments. The limbs are typically formed after the pentadactyl pattern; and the shoulder girdle and sternum are complete. The hyoid apparatus resembles that of birds. In the skull the quadrate bone is movable except in a few degraded forms. The skin is covered with scales formed within it, and the epidermis is horny and is periodically shed in flakes; but in many cases these scales do not overlap and look like scales, but are represented by bony granules, giving a "pebbly" aspect to the surface; or these osteoderms (which never occur in snakes) may form in the ordinary scales. The skin contains no glands; but in many lizards abounds in chromatophores (q.v.) controlled by muscles whose action causes the variations in surface color of which many lizards are capable and of which they avail themselves as an aid in hiding from their enemies. In their reproduction lizards never undergo any metamorphosis and are generally oviparous, but in some the eggs are retained until they hatch within the abdomen of the mother. Salivary glands are found which in *Heloderma* act as poison glands. The lungs are thin-walled sacs, from which terminal pouches may arise. The movement of the ribs assists in respiration. The lizards are most abundant in tropical regions, but are absent only from the cooler temperature and the frigid regions of the globe. The group possesses strong power of regenerating lost parts and especially of renewing the tail, which in many families breaks off under a very slight strain.

Fossil History.— The *Lacertilia* are a comparatively recent development of the reptilian race, not traceable beyond the beginning of the Tertiary. Fragmentary remains of several existing families occur in the Eocene and Miocene rocks; and the Pleistocene river-deposits of Queensland, among which was a monitor-lizard 30 feet long. The line probably originated in the *Prosauria* (q.v.), represented by a single living form — the tuatera (q.v.). Lizards are now scattered over all the warmer parts of the world and seem to be increasing and developing. They are said by Hoffman to include 434 genera and 1,925 species.

Classification.— The *Lacertilia* are divided into three sub-orders, of which the following is an outline:

Sub-order 1. Geckones.— *Lacertilia* with four legs, amphicœlous vertebræ and clavicles dilated ventrally. The chorda persists and grows throughout life, in the centre of and between the vertebræ; the ribs are bifurcated, and dentition is pleurodont. Some species have mechanically adhesive discs. The one family (*Geckonidæ*) is coextensive with the sub-order. This is a very old group, modern species existing in tropical and southern European countries. See GECKO.

Sub-order 2. Lacertæ.— *Lacertilia* with procœlous vertebræ and the ventral part of clavicles not dilated. Eighteen families, as follows:

1. *Agamidæ.*—A family of exclusively Old World lizards, containing some 200 species, among which the Malayan dragon (q.v.), and the frill-lizard (q.v.) are remarkable species. Many have a very chameleon-like appearance.

2. *Iguanidæ.*—A large and chiefly American family with pleurodont dentition, and a short, thick, non-protractile tongue. The genus *Anolis* contains the common "chameleon" of the southeastern United States. (See ANOLIS; CHAMELEON). *Basiliscus* of Central America has a great, erectile vestigial crest on the back and tail. (See BASILISK). *Iguana* (q.v.) includes large edible lizards of Central and South America. *Phrynosoma* is the genus of the "horned toad" (q.v.).

3. *Xenosauridæ.*—A Mexican family intermediate between the *Iguanidæ* and the *Anguidæ;* represented in Africa by (4) the *Zonuridæ.*

5. *Anguidæ.*— Terrestrial pleurodont lizards, with bony plates in the skin and the tail long and brittle, dwelling in Central America. Europe and India. *Ophisaurus,* the genus of the glass snakes (q.v.) of the Central States,

has the limbs reduced to mere spikes. *Anguis*, the "slow-worm" (q.v.), has no limbs at all, and the eyes well developed.

6. *Helodermatidæ.*— Pleurodont, poisonous lizards of New Mexico and Arizona. See GILA MONSTER. The (7) *Lanthanotidæ* are Asiatic representatives of the foregoing.

8. *Varanidæ.*— Pleurodont aquatic lizards of the Old World, with bifid, protractile tongue. See MONITOR LIZARDS.

9. *Xantusiidæ.*— Three Central American genera.

10. *Tejidæ.*—A large tropical-American family of large forest-dwelling, carnivorous lizards of great strength and swiftness. See TEJU.

11. *Lacertidæ.*— Typical small lizards of the Old World, with pleurodont dentition, and bony dermal plates over the temporals. About 100 species. All live on animal food, chiefly insects, worms and snails.

12. *Gerrhosauridæ.*—African lizards, intermediate between *Lacertidæ* and *Scincidæ*.

13. *Scincidæ.*— Pleurodont, viviparous lizards, with feebly nicked, scaly tongue. They burrow in sandy ground. The family contains about 400 species distributed all over the world. See SKINK.

The following five families have become degraded on account of their burrowing instincts: (14) *Anelytropidæ*, worm-like, legless lizards of the tropics; (15) *Dibamidæ*, of Malay Archipelago; (16) *Anjellidæ*, worm-like lizards of California, limbs entirely absent; (17) *Amphisbænidæ*, worm-like, blind lizards which burrow like earthworms, especially in ants' nests and manure heaps. *Chirotes* of Mexico and California has the fore-limbs remaining. See AMPHISBÆNA.

18. *Pygopodidæ.*— Snake-like lizards; fore-legs absent; hind-legs a pair of scaly flaps; Australasia.

Sub-order 3. Chamæleontes.— Old-World saurians, with compressed body and prehensile tail; tongue club-shaped and capable of being protruded to a distance equal to the length of the body; two digits of the feet are permanently opposed to three; head crested; eye-balls very large and movable on the two sides independently of each other; capacity for changing color conspicuous. (See CHAMELEON). Consult Boulenger, 'Catalogue of Lizards in the British Museum' (London 1887); Cope, 'Crocodilians, Lizards and Snakes of the United States' (Washington, U. S. Nat. Museum, 1900); Gadow, 'Amphibia and Reptiles' (in 'Cambridge Natural History,' Vol. VIII, London 1902).

LACEWING, a neuropterous insect of the families *Hemerobiidæ* and *Chrysopidæ*. About 40 species are found in the United States, the most common perhaps being the golden-eyed flies of the genus *Chrysopa*. These are greenish, ill-smelling, gauzy-winged creatures usually less than two inches long and feeding little or not at all in the adult state. The females lay their eggs upon the summits of silky threads, by which means they are protected from predaceous enemies. The larvæ, as soon as hatched, crawl down the threads and feed upon the first soft-bodied insect they reach — perhaps a brother. They are considered useful in destroying plant-lice, hence the name "aphis-lions" (q.v.), but in California they attack the larvæ of the useful ladybirds.

LACHAISE, François d'Aix de, frăn-swā dā dė lā-shāz, French Jesuit confessor of Louis, XIV: b. Château d'Aix, 25 Aug. 1624; d. Paris, 20 Jan. 1709. He was the provincial of his order when Louis, on the death of his former confessor, appointed Lachaise to that office. The new confessor with admirable tact kept himself clear of the innumerable meshes of court intrigue. Jansenism was at the time a powerful factor in ecclesiastical and political circles, and the Jesuits were its most formidable adversaries, but Lachaise knew how to conduct himself under all circumstances with address, coolness and sagacity; and never allowed himself to be drawn into violent measures against his opponents. That Louis XIV married Mme. de Maintenon was owing principally to the counsels of his Jesuit confessor. Lachaise retained the favor of his monarch till his death, and Louis had a country-house built for him to the west of Paris, on an eminence which had received the name of Mount-Louis. Its extensive garden now forms the cemetery of Père Lachaise, the largest in Paris.

LACHAMBEAUDIE, lą'shăn'bō'dė', **Pierre,** French fable writer: b. Sarlat, Dordogne, 15 Dec. 1807; d. Brunoy, 6 July 1872. He was son of a poor peasant and became bookkeeper for a Lyons commercial house, then obtaining a position on the railway while editing *Echos de la Loire* until, after much poverty and misfortune, his 'Fables populaires' were published (1839; 7th ed., 1849) with such brilliant success that his future was well assured and his name honored. During his period of exile at Brussels for activity in the 1848 revolution he published 'Fleurs d'exile' (1851); 'Fleurs de Villemomble' (1861) and 'Hors d'œuvre' (1867).

LACHES, lą'shėz, a legal term derived from the Old French *lachesse*, remissness, which in turn was derived from the Latin *laxus*, slack. Unreasonable delay; neglect to do a thing or to seek to enforce a right at a proper time. Courts of equity withhold relief from those who have delayed the assertion of their claims for an unreasonable time. The question of laches depends not upon the fact that a certain definite time has elapsed since the cause of action has accrued, but upon whether, under all the circumstances, the plaintiff is chargeable with want of due diligence in not instituting the proceeding sooner. To constitute laches to bar a suit there must be knowledge, actual or imputable, of the facts which should have prompted action or, if there were ignorance, it must be without just excuse. Laches may be excused from the obscurity of the transaction; by the pendency of a suit; and where the party labors under a legal disability, as insanity, but poverty is no excuse for laches, nor ignorance and absence from country. Laches on the part of its officers cannot be imputed to the government and no period of delay on the part of the sovereign power will serve to bar its right either in a court of law or equity when it sees fit to enforce it for the public benefit.

LACHESIS, lăk'ė-sĭs, in classical mythology, one of the three FATES (q.v.).

LACHINE, lă-shēn, Canada, town in Jacques Cartier County, Quebec, on the Grand Trunk Railway, eight miles southwest of Montreal, on Montreal Island, which is here connected with Caughnawaga, on the south bank of the Saint Lawrence, by a bridge. It is a popular resort for pleasure parties in the winter, and in summer is largely a residential place for Montreal business men. It is best known as the terminus of the Lachine Canal, nine miles long, connecting it with Montreal and built to carry steamers around the Lachine Rapids. All the commerce of Montreal by the Great Lakes passes through this canal. Lachine is the starting point of steamers for Kingston, Toronto and Hamilton. Lachine has some manufactories, and here are the electric works of the Lachine Power Company, furnishing power and light for the city of Montreal. It was first named Saint Sulpice, but was changed in derision to Lachine after the return of La Salle's expedition of 1669, which, it was mockingly said, set out to find China by ascending the Saint Lawrence. In 1689 the Indians burned the town and massacred all the inhabitants. Pop. 10,699.

LACHINE CANAL. See CANADIAN CANALS.

LACHISH, lā'kĭsh, Palestine, a city of Judah. It was destroyed by Joshua and given to the tribe of Judah, and was fortified by Rehoboam. King Amaziah sought refuge there but was slain. Sennacherib, in his campaign against Judah, captured this town and King Hezekiah sent a deputation there with presents to placate Sennacherib. Micah denounced the place as "the beginning of sin to the daughter of Zion," the intent of which is not clear. Its site is identified with Tell-el-Hesi, the hillock excavated by Flinders-Petrie and Bliss (1890–93) for the Palestine Exploration Fund, some 16 miles east of Gaza. Consult Flinders-Petrie, 'Tell-el-Hesy' and Bliss, 'A Mound of many Cities,' both published by the Palestine Exploration Fund in 1891 and 1894, respectively; Rogers, 'Cuneiform Parallels to the Old Testament' (New York 1913); Schrader, 'Cuneiform Inscriptions and the Old Testament' (Vol. II, London 1885–88).

LACHLAN, lăk'lăn, a river of New South Wales, having its source in the Cullarin range, 175 miles southwest of Sydney. The river makes a semi-circular sweep north of about 240 miles, when, pursuing a generally southwest course, it joins the Murrumbidgee, the united stream afterward falling into the Murray. The total course is about 700 miles.

LACHMANN, lägh'mąn, **Karl Konrad Friedrich Wilhelm,** Teutonic and classical philologist: b. Brunswick, 4 March 1793; d. 1851. As a student at Leipzig and Göttingen his work lay in Italian, English and Old German poetry, as well as in Greek and Latin. As a teacher he passed from various gymnasium positions to professorships in the universities of Königsberg and Berlin. His work in textual criticism, both in the early German and the classics, was epoch-making. Editions of Walther von der Vogelweide, Wolfram von Eschenbach, Lucretius (his greatest achievement as an epoch-making work), Catullus, Tibullus, Propertius, the New Testament and Shakespeare's sonnets and Macbeth deserve mention among his numerous publications. Consult his 'Life' by Hertz (Berlin 1851).

LACHNER, lägh'nĕr, **Franz,** German orchestral composer: b. Rain, Bavaria, 2 April 1804; d. Munich, 1890. He studied music at Vienna under Stadler and Sechter (1822) and became familiar with Schubert. He was appointed (1826) vice-bandmaster of the Kärnthnerthor Theatre and bandmaster in the following year. In 1834 he went to Mannheim to conduct the opera and became court-bandmaster (1836), general music director at Munich (1852), retiring (1865) on a pension. His works are prodigious in number, consisting of an oratorio, a sacred cantata, four operas, requiems, three grand masses, besides other cantatas, entr'actes, etc. Also eight symphonies, one winning the prize offered by the Gesellschaft der Musikfreunde, overtures, serenades for orchestra. His suites for orchestra are considered his best work. Critics declare he lacked fire but was a prodigy of conscientious industry.

LACHRYMAL (lak'rĭmąl) **ORGANS.** See EYE.

LACHUTE, lą-shoot', Canada, town in Argenteuil County, province of Quebec, on the North River, and Canadian Pacific and Canadian Northern railroads, 44 miles from Montreal. It is an important shipping centre for farm and dairy products and has large paper mills, pulp mills and wood-working industries. Pop. 2,400.

LACINARIA, lă-sĭn-a'rĭ-ą, a genus of plants of the thistle family containing about 30 species of tall perennial herbs growing in dry soil throughout the eastern and central United States and known as blazing-stars and button snake-roots. They bear late in the season dense spikes of purplish flowers, often in the south a foot in length and of a delicate lavender tint very effective when seen in a mass of goldenrod or autumnal grasses. *L. squarrosa* is known as colic-root, and all the species are in repute among the southern country folk, not only as good family medicine in the form of a decoction made from the root, but as a specific against rattlesnake venom.

LACKAWANNA, lăk'ą-wŏn'ną, N. Y., town of Erie County, on the Lackawanna River and on the Lake Shore and Michigan, the Pennsylvania, the Lehigh Valley and other railroads, and six miles from Buffalo. Coal is mined here and there are blast furnaces and coking plants, and a number of coal-breaks. It has six churches and a hospital. Among its manufactures figure chiefly the large steel plant and the bridgeworks. Pop. 15,737.

LACKAWANNA RIVER, a considerable stream which rises in the northeast part of Pennsylvania and flows through the valley formed by the Shawnee and Moosie mountains, discharging into the Susquehanna at Pittston; length about 50 miles. Great quantities of the best anthracite coal are mined in the valleys adjacent to this river, the entire district being given over to collieries, rolling mills, blasting furnaces and factories, Scranton being the principal town. The greatest thickness of strata belonging to the coal measures amounts in the central portion of the basin to nearly 1,800 feet. On each side they dip toward the

central axis at angles sometimes exceeding 30 degrees, gradually lessening till they are found in horizontal and undulating positions near the centre. Toward each extremity of the basin they gradually shelve upward till replaced by the outcrop of the older rocks.

LACLOS, lą'klō, **Pierre Ambroise François Choderlos de,** French author: b. Amiens, 19 Oct. 1741; d. Tarent, 5 Nov. 1803. He was a captain of artillery and private secretary of the Duke of Orleans, becoming notorious through his obscene novel 'Les liaisons dangereuses' (Amsterdam and Paris 1782). He was editor of *Journal des amis de la Constitution* (1791) and was made (1792) brigadier-general. He got entangled in the Duke of Orleans case, but Robespierre spared him, and he became inspector-general of artillery.

LACMUS. See LITMUS.

LACOLLE MILL, Battle of, in the War of 1812. Shortly after Gen. Wade Hampton went into winter quarters following the battle of Chateauguay (q.v.), Gen. James Wilkinson went to Plattsburg and wrote a letter to the Secretary of War demanding a review of his conduct by a court-martial. Pending a reply he determined to strike a blow at Montreal, the road to which was barred by small garrisons at Saint John and Isle Aux Noix and by outposts at Lacadie and Lacolle. At Lacolle were 200 troops stationed in a stone mill with thick walls and solid front. On 30 March 1814 Wilkinson led 4,000 men and two 12-pound field guns against the mill. The gunfire inflicted no damage, whereupon, having received reinforcements from Isle Aux Noix, the British garrison made two sorties, but were repulsed, and the American continued their bombardment. As the British now numbered about 1,000 troops and as his losses amounted to 200 and little damage was being done by the guns, Wilkinson ordered a retreat and returned to Champlain. The British loss was 11 killed, 46 wounded and 4 missing. Wilkinson was then relieved of duty and Gen. George Izard (q.v.) took command. Consult Brackenridge, H. M., 'History of the Late War' (p. 198); Dawson, 'Battles of the United States' (Vol. II, p. 337); Fay, H. A., 'Official Accounts' (pp. 181–183); Wiley and Rines, 'The United States' (Vol. V, pp. 418–420); Wilkinson, James, 'Memoirs' (Vol. III, chap. VII).

LACON, lā'kŏn, Ill., town and county-seat of Marshall County, on the Illinois River, and on the Chicago and Alton Railroad, 30 miles north of Peoria and 128 miles southwest of Chicago. Steamboats ascend the river as far as this point and there are a number of grain elevators and other shipping facilities here; manufactures of wagons, carriages and woolen goods; marble works, a national bank, several newspapers and numerous churches. There is a school library and a modern high school building. The waterworks are municipally owned. Pop. 1,495.

LACONIA, lā-kō'nĭ-ą, the name for a large tract of land granted by royal patent to Ferdinand Gorges and John Mason in 1622. It was located between the Merrimac and Kennebec rivers, the ocean and the Saint Lawrence River of Canada. The present State of New Hampshire formed a considerable portion of Laconia.

LACONIA, a territory in ancient Greece. See SPARTA.

LACONIA, N. H., city and county-seat of Belknap County, on the Winnipesaukee River, and on two divisions of the Boston and Maine Railroad, about 28 miles north of Concord, the capital of the State, and 100 miles north of Boston. It was settled in 1780–82 by English people from the southern part of New Hampshire. It was incorporated as a town in 1852 and chartered as a city in 1893. It is in an agricultural and manufacturing section, in a beautiful lake region. Its charming scenery, cool climate and opportunities for fishing make it a favorite summer resort. Its principal manufactures are hosiery and knit goods, railroad cars, machinery, lumber, clutches, needles and paper boxes. The State Home for Feeble-Minded Children is located here, also the State Fish Hatchery. The educational institutions of the city are the public and parish schools and the Gale Memorial Library. The prominent buildings are 12 churches, an opera house, cottage hospital, three national banks, public library and the courthouse. The government is vested in a mayor and six councilmen. Pop. 11,094.

LACONIA GRANT. See BOUNDARIES OF THE UNITED STATES.

LACORDAIRE, lą'kôr'dār, **Jean Baptiste Henri Dominique,** French preacher: b. Recy-sur-Ource, 12 March 1802; d. Sorèze, 22 Nov. 1861. After studying law in Paris he began practice in that city. He was in religion a deist of the Voltairian school, and it was only after reading the 'Essai sur l'Indifference' of Lamennais (q.v.) that he came to the conclusion that Roman Catholicism was a primal factor in the development of political life. It was with this view that he determined to become a priest. Entering the Seminary of Saint Sulpice in 1824 he was ordained priest in 1827. In 1835 he was appointed preacher at Notre Dame, where his sermons attracted crowded congregations. He was, however, bent on a wider project, the revival of the Dominican order, the great order of preachers in France. With this view he revisited Rome in 1838, and after the usual novitiate became a Dominican. The Dominican is originally a Spanish order, and was never popular in France, and Lacordaire, who was appointed provincial of the order in 1850, had little success in establishing it there. He was in 1848 elected a member of the National Assembly. He was, however, rebuked by his bishop for calling himself a Republican and retired from politics in 1852. His honest indignation against the *coup d'état* expressed in a sermon roused the animosity of Napoleon III, and he was driven from the pulpit and became director of the Lycée at Sorèze. He was elected to the Academy in 1860. A collected edition of his works appeared at Paris in nine volumes in 1872. Consult 'Lives' by Montalembert (1862); Foisset (2d ed., 1874); Chocarne (8th ed., 1894); Greenwell (1877); Lear (1882); D'Haussonville (1895); Nicolas, 'Le Père Lacordaire et le Libéralisme' (1880); Fesch, 'Lacordaire, Journaliste' (1897).

LACOSTE, lą-kŏst, SIR **Alexander,** Canadian jurist: b. Boucherville, Quebec, 12 Jan. 1842. He was educated at the College Saint Hyacinthe and at Laval University and was called to the bar in 1863. He sat in the Legis-

lative Council of Quebec 1882–84, became a Dominion senator in 1884 and chief justice of the Queen's Bench of Quebec 1891–1907. He was knighted in 1892.

LACQUERING, lăk'ẽr-ĭng, the art of giving a smooth and brilliant surface with various preparations of shellac (see JAPANNING). In Chinese lacquering they first stop up the holes and crevices, covering all the imperfections with a coating of diluted lac by means of a flat, close, short brush. Then they cover the whole with a thick coating of lac and white clay. This clay, oily to the touch, is found at the bottom of certain lakes in Tonking; it is dried, pulverized and sifted with a piece of fine silk before being embodied with the lac. This operation is designed to conceal the inequalities of the wood and produce a uniform surface, which, when completely dry, is rendered smooth with pumice stone. If the object has portions cut or sunk the clayey mixture is not applied, for it would make the details clammy, but in its place a single, uniform layer of pure lac. In any case, after the pumicing, a third coating, now pure lac, is passed over the piece which at this time has a mouse-gray color. This layer, known under the name of *sou lot*, colors the piece a brilliant black. As the lac possesses the remarkable property of not drying in dry air, the object is left in a damp place. When perfectly dried the piece is varnished and the desired color imparted by a single operation. If the metallic applications are excepted, the lac is colored only black, brown or red.

The operation of lacquering is then ended, but there are parts to be gilded. These are again covered with a mixture of lac and of oil of *trau*. When this layer is dry the metallic leaves are applied, which are themselves protected by a coating composed also of lac and oil of *trau*. All these lac and oil of *trau* mixtures are carefully filtered, which the natives effect by pressing the liquid on a double filtering surface formed of wadding and of a tissue on which it rests. It can only be applied after several months when the metallic leaf is of gold. In the case of silver or tin the protecting coat can be laid on in a few days.

The wood to be lacquered should be absolutely dry. In Japan when wood is well prepared and the faults have been corrected with pure lac it is dried, pumiced and covered with a coat composed of crushed flax mixed with glue. Then a layer of lac is applied and covered with a fine linen fabric which should perfectly adhere in all its parts. This first preparation, suitably dried, serves as a foundation for the successive applications of 33 layers. Each coating is rubbed with a fine-grained stone before drying in the moist chamber. This is done with the greatest precaution, so as to avoid impurities and dust. The last polish is obtained by rubbing with the powder of calcined deer horn. The piece is then ready to receive the application of gold or of silver, which is effected as follows: The design to be reproduced is drawn on very fine paper prepared with a mixture of glue and alum, and on the back of the paper the outlines are traced with a brush of fine rat's hair, dipped in lac previously boiled over a brisk charcoal fire. This paper is then applied to the object to be decorated, and it is made to adhere by rubbing with a spatula, either of minoki wood or of whalebone. When the paper is removed the design is found transferred damp and is rendered more distinct by the application of a white powder by means of a piece of wadding. With one of these transfer papers 20 reproductions can be secured, and the lines can be retraced with the boiled lac, it is said, so as to procure copies almost indefinitely. The outlines remain damp in consequence of the use of the boiled lac, and imperfections can be corrected. In this case the outlines are retraced with a pencil of hare's hair lightly charged with a preparation of lac not boiled. This operation is delicate and requires great care not to displace the lac from the original outlines. When ended the whole is covered with fine gold, silver or tin powder, as desired; the powder is applied by means of a piece of wadding. If the object to be decorated is of large dimensions the process is conducted on separate parts, and at each step the piece is placed in a damp closet tightly closed, so as to exclude the dust. When the metallic coating has hardened sufficiently the piece is taken out, and the design is covered with a fine transparent lac laid on with a brush of hare's hair. The gilding or silvering of the succeeding part is never attempted until the preceding has been completely dried in the damp chamber. All the parts of the object are finally rubbed with a piece of camelia wood charcoal in order to equalize the thickness, and then polished with the fingers moistened with a mixture of calcined deer horn powder and oil.

Indian lacquer is a natural black varnish obtained from the inspissated juice of the unripe rind of the fruit of the *Semecorpus anacardium* or some related tree. Burmese lacquer is obtained from the black varnish tree (*Melanorrhœa usitata*). European and American imitations of Oriental lacquering may be regarded as identical with japanning. Late in the 18th century lacquering was regarded as a polite art or fad of the well-to-do, and a variety of ornamental varnishing was performed under this name. The art possessed quite a literature. Consult Audsley, 'Ornamental Arts of Japan' (1882); McQuoid, 'History of English Furniture' (1908); Seeligmann, 'Handbuch der Lach- und Firnis-Industrice' (1910).

LACQUERS AND LACQUERWORK. Japanese.— While the art of lacquerwork was first known to the Chinese and taught by them to the Japanese, this latter nation has so far excelled all others as to make its lacquer product stand out as a class by itself. Louis Gonse says: "Japanese lacquer objects are the most perfect works of art that have issued from the hand of man." W. T. Walters says: "Lacquer is the vehicle exclusively identified with Japanese art and art industries. The Chinese have attempted its use, and in Europe the connoisseurs are familiar with the *vernis* of the Martins. But lacquer in all its beautiful uses and decorations is a truly Japanese belonging." In this context it must be said that, while Nippon's natives far outrank all others in this work, there is a very great and distinct difference between the "Old Japan," prized by the connoisseur, and the commercial wares made for export by the Dutch during the 18th century and since. This difference was forcibly

displayed when a steamer laden with both kinds was returning the fine exhibits from a world's fair and sank. The precious cargo lay for two years at the bottom of the ocean and was then salvaged. The commercial pieces were damaged beyond repair, the "Old Japan," made many centuries ago, was in perfect condition, not a joint or seam affected. A short description of the elaborate processes and styles of Japanese lacquers will aid to a better knowledge of an admiration for the greatly prized "Old Japan."

Japanese lacquer (*urushi*) is the sap of the Rhus vernicifera, a plant the cultivation of which is Japan's most important branch of agriculture. The sap is gained by puncturing the bark, and the varieties and treatment are as follows: (1) *Seshime-urushi*, the crude lacquer drawn from the branches (and termed "branch" lacquer) becomes very hard and is used for priming (first coat). (2) The commoner lacquer (*Ki-no urushi*) is full of impurities and a viscous liquid of a dirty gray tone. The impurities are allowed to settle and the lacquer then drawn off is strained. (3) *Shunkei urushi*, used for furniture, is so transparent as to show the grain of the wood through it; it is prepared by mixing pure lacquer with oil of perilla. (4) *Roiro urushi* is the black lacquer oxidized by two days' stirring of the crude gum in the open air and adding, toward the end, a little water that has had iron filings standing in it. (5) Mixing crude lacquer with either Prussian blue, cinnabar, red oxide of iron, orpiment, or other pigment, then straining, produces the different colored lacquers. (6) *Nashiji*, the gold-flecked lacquer, is made by sifting powdered gold leaf on the fresh soft lacquer. When hard the surface is smoothed and ground to transparency with charcoal and then polished. (7) *Tsi-shu*, or carved lacquer. was brought from China to Japan about 1600 and this style of work is done mostly on red lacquer, imitating *Soo chou*, but the black and brown are sometimes carved. (8) *Guribori* effect is produced by superimposing several thick layers of different colored lacquers, each layer having deeply engraved scroll lines which expose the underlying layers. (9) Beautiful effects are produced by inlays of gold, silver, bronze, mother-of-pearl, ivory, stones, even porcelain. (10) *Tsugaru* lacquer has a marbled effect showing veins of red, brown and green. The first layer is composed of black lacquer mixed with the white of an egg, or bean powder, and tamped, while soft, with a ball of cotton to produce irregularities of the surface. After reducing by grinding, a layer of another color is added and treated in the same way; and so on till every color has been used. (11) *Wekasa* ware has a green and red lustrous surface caused by tin foil beneath the upper coating. (12) *Makiye* effect is produced by using gold of 60 different color shades.

The cultivation of the Japanese lacquer art is claimed to cover over 2,000 years. The quality of the objects made depends upon the length of time allowed for the drying of the priming, in fact to extend the duration of the siccative action the primed body is set in a damp place and kept under cover to exclude all dust particles. First a composition of the hard "branch" lacquer, ox gall, dust or fine stone powder is used to cover the base of the body. Then commences the first polishing and the object is left to dry slowly; then another coat of lacquer is applied and allowed a long period to dry, when the polishing is renewed. This process is continued till, sometimes, as many as 20 applications have been superimposed, dried and rubbed down with clay. The painting or other decoration follows next.

When the great European demand started, about 1700, inferior goods were rushed to market and decadence in the industry soon followed. The Japanese government, middle of last century, started an attempt to raise the artistic level of the art, and met with considerable success, so that Tokio, Kioto and Osaka produced really meritable pieces. Cheap, inferior ware is made in the provinces of Aidzu and Yechizen. The hardness of fine lacquer pieces is such that lacquer bowls are used to serve hot wines, liquors, soups, etc.

Japanese lacquer periods are Kamakura, 1100 to 1336; Ashikaga, 1336 to 1573; Momoyana, 1573 to 1603; Tokugawa, 1603 to 1868. Noted lacquer artists are Koetsu, end of the 16th century; Shunsho, 18th century; Yosai (imported from China and produced the first carved red lacquer), about 1600; Koma Kwanzai, 17th century; Ritsuo, early 18th century; Hanzan (Ritsuo's pupil); Kadjikova, Kiyokava, Shiomi, Toyo, Kwanshio, Toshidé, Yoyusai, Zeishin.

A fairly exhaustive list of Japanese lacquer articles is medicine boxes (*inros*); paint-boxes (*sudzuri-bako*); clothes-presses, chests; small tables for incense burners; dinner tables (*zen*), saké tables; traveling trunks (*hasa-mibako*); tobacco boxes (*tobacobon*); palanquins or Sedan chairs (*norimonos*); clothes-horses (*iko*); writing and toilet sets; book coffers (*oi*); dinner sets; saké sets; smoking sets; dinner and saké dishes; saké bottles; saké dish stands; water pots; incense boxes; picture easels; hair combs and pins; neck rests; boxes to hold tea services (*chadansu*); tea trays; urns; fans; foot baths; hats; braziers; (*hibachi*); letter boxes; bowls and covers (*hira*); little boxes for perfumes (*ko-bako*); rouge boxes; kaké boxes; mirror stands; sword racks (*katanakake*); horse saddles; stirrups; brush jars; incense burners (*koro*); tea caddies (*cha-ire*); tea bowls (*chawan*); pipe cases (*kisernire*); dinner chests (*bentobako*); sweetmeat boxes (*kwashi-bachi*); book chests (*bunko*); fruit dishes (*takasuki*); screens, sliding doors, etc. Besides their furniture and utensils, the Japanese, as protection against atmospheric action, coat their light wood houses (pillars, pilasters, verandas, movable wall frames) with lacquer.

Chinese Lacquerwork.— The Chinese term for their lacquer is *tsi*. They were the precursors in this as in many other arts and taught the Japanese, but the date of origin is obscure. In the esteem of the Chinese their coral-red *Soo-chou* carved lacquer stands foremost. Dr. Bushell says Pekin and Soo-chou have done no highly artistic work since Ch'ien Lung (1736–95). There are, however, a large number of fine specimens extant of coral-red. The term "Coromandel" lacquer has been for two centuries used for some very fine incised and decorated old Chinese work; the reason for the term is conjectural. The Celestials produced a

style of lacquer done by placing a very thin layer of iridescent shell in black lacquer, besides the thick mother-of-pearl inlays. This peculiarly pretty effect was very much admired by the French who termed it "laque burgautée" and the production thrived greatly late in the 17th century (*Kang-he*). The Chinese also excelled in coating porcelain with black lacquer decorations. As in other lines of decorative art of the Chinese the crafts are very much "specialized." Thus the different operations of cabinetworkers, lacquerers, decorators, metalworkers, etc., often necessitate each piece passing under the hands of many workmen. Like the Japanese the Chinese extend the use of lacquer in many directions; as Semper says: "The Chinese lacquer everything, even their tree trunks." The body of Japanese and Chinese lacquer pieces consists of thin wood, fine bamboo wickerwork, leather, skins, etc.

Indian and Persian Lacquerwork.— The method of production of these natives is quite different from that of China or Japan, inasmuch as the lacquer is utilized only as a covering or coating to preserve the decoration beneath. The best work emanates from the northwest provinces of East India. They show a close relationship in style to the Persian painting. Indian pieces have been divided into two categories: "Masnadi" or royal — large panels and decoration pieces; and "Farsi" or Persian — portable articles. Unlike the Japanese and Chinese decoration, that of India and Persia is extraordinarily rich and complex. Gold, green, yellow, blue are the favored colors; deep blue is a frequent background. Again in contrast with the Chinese and Japanese the Indian and Persian method of decorative treatment covers the entire surface; borders, sides, covers of the object show harmonious repeats of the same motifs. Another difference lies in the fact that Indian and Persian decoration is confined almost exclusively to plant life motifs. The Persians, however, intersperse medallions and human figures, though of distorted or unnatural form. A common method of the Indian decoration is stippling on a white, yellow or light scarlet ground. Several coats of transparent lacquer are laid over the painting. The Indians also do a relief decoration under lacquer, the embossed parts being made up of a lead and glue substance placed on the surface of the object, coated with white, then allowed to dry thoroughly, after which it is carefully carved. The surface then receives a coat of lacquer of the desired color and, lastly, several more layers of transparent lacquer. Indian lacquer pieces range from bowls, boxes, fan-holders and plates to book-covers. And in Cashmere, where the best lacquer ware is made, the product extends to chairs, tables, even bedsteads. The body of Indian and Persian pieces is paper, papiermaché or very light wood.

French Lacquerwork.— The beautiful pieces of old Japanese and Chinese lacquerwork that were being imported to France created a great vogue for making up French modern furniture to include Oriental lacquer panels. This extravagant fashion lasted from 1680 to say 1793; that is to say, under Louis XIV, during the Regency, and under Louis XV and the Pompadour and still under Louis XVI and Marie Antoinette. Thus for a hundred years French *ébenistes* were breaking up the finest old Oriental étagères, boxes, folding screens, etc., to produce their armoires and cabinets; and the lovely effects produced when bronze and gilt carved mounts were added from the artistic hands of the Caffieris and other clever metal carvers are shown in the costly extant pieces. Marie Antoinette had a fine collection of Oriental pieces, now to be seen in the Louvre. Even under Napoleon lacquers were much favored. It is not to be wondered at, considering the great demand and remunerative prices paid for lacquerwork, that French artisans should attempt creations in imitation. They were not without success, though the product is one created from varnish gums combined with shellacs, not lacquer. Most successful in this field of endeavor was Robert Martin (1706–65), a decorator of furniture, Sedan-chairs etc. By 1733 he received the title of "varnisher to the King." His panels with Chinese landscapes, figures, etc. (*chinoiseries*) and other French decoration were of a high quality, as were those of his descendants, equalled by the excellent workmanship of the cabinet work. Good pieces of "vernis Martin" fetch high prices to this day, and the product includes small ware such as snuffboxes, etc.

English Lacquerwork.— From the last quarter of the 17th century and during first half of the 18th century England was passing through a veritable rage for lacquered furniture. Oriental imports on a large scale gave impulse to the fad. This style of decoration was termed "Indian." It became so popular that the art was taught to young ladies in the schools. Cabinetworkers, when Queen Mary led the fashion and placed all her "china" in "japanned" closets, became proficient lacquerers. The fashion came so suddenly and became so extremely popular that lacquer coatings began to cover furniture of every description as is evidenced by the fact that "Queen Anne" style pieces of lacquerwork extant, if scratched, often disclose walnut veneer beneath. English *lac* pieces of this period are, generally, in red, green blue, violet, some buff. These pieces are now getting scarce and are prized by collectors, especially those in red. A survival of this "lacquerwork" occurred in the 80's of last century during the Adams' style vogue. The product was termed "Japanned work" and was in black, green or gray, mostly, and heightened with gilt or painted decoration. The execution of this furniture was poor and few pieces (unless retouched) exist that are not dilapidated.

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CLEMENT W. COUMBE.

LACROIX, lą'krwą' **Paul,** French historian and novelist: b. Paris, 27 Feb. 1806; d. there, 16 Oct. 1884. He wrote under the *nom-de-plume* P. L. Jacob, Bibliophile, and is best known under that name. He was a prolific writer. Among his early works are 'Dissertations sur quelques points curieux de l'histoire de France et de l'histoire littéraire' (Paris 1838-47); 'Histoire du XVIe siècle en France' (1834); 'Histoire de la vie et du règne de Nicolas Ier' (1864), in eight volumes. His novels are on romantic history subjects. He edited (from 1829) in collaboration with Pichot, *Mercure du XIXe siècle* and founded (1830) *Gastronome* and *Garde national*. In cultural art he published a series of richly illustrated works, among them 'Costumes historiques de la France' (1852, 10 vols.); 'Le Moyen-Âge et la Renaissance' (1847-52, 5 vols.); 'Mœurs, usages et costumes au moyen-âge et à l'époque de la renaissance' (1870; 2d ed. 1872); 'Vie militaire et religieuse' (1872).

LACROIX, Sylvestre François, French mathematician: b. Paris, 1765; d. there, 25 May 1843. He was (1787) instructor at the Paris Military School, became (1788) professor at the artillery school at Besançon and examiner (1793) of artillery officers. In 1794 he was appointed chief of the Bureau of Committee for the Restoration of Public Instruction, and professor of mathematics at the École Normale. He was appointed (1799) professor of the Polytechnic School and then professor of mathematics at the university, and in the same capacity (1815) at the Collège de France. He resigned from most vocations in 1821. He wrote excellent books of instruction still in use; also 'Traité du calcul differentiel et du calcul intégral' (Paris 1797; 7th ed., 1867); 'Traité des différences et des series' (1800); 'Traité elementaire du calcul des probabilités' (1816; 4th ed., 1833); 'Cours des mathématiques' (1797-1816). These have found German versions on account of their high value.

LACRYMÆ CHRISTI, lą'kri'mī krīs'tī, an Italian red wine produced from grapes so named grown on the slopes of Vesuvius near the Lacrymæ Christi monastery. Its delicate, spicy flavor, fire and aromatic bouquet give it a popularity higher than other Italian wines. On which account vintages from elsewhere in Italy are often labeled with this name when the wine has a more or less similar character, especially as the true vintage is a small one. It is numbered among the liqueur wines. The dark, amber-yellow Lacrymæ Christi of Mount Somma is the closest in quality to the true vintage.

LACTANTIUS, Firmianus, often called the Christian Cicero, on account of his pure Latin style, lived in the last half of the 3d century and at the beginning of the 4th. Constantine the Great made him tutor of his son Crispus. His most important work is the 'Institutiones Divinæ,' a manual of Christian doctrine written to defend the religion to which he had been converted. His works appear in Migne's 'Patrologia,' and have also been edited by G. Laubmann and S. Brandt (Vienna 1891).

LACTARENE, lăk'tą-rēn, the casein of milk as commercially prepared by being freed from fat, precipitated by an acid, thoroughly purified, dried and powdered. It is insoluble in water, but is soluble in an alkali, such as ammonia, and in this form is used, like albumen, for fixing pigment colors in calico-printing. The cloth, after it has been printed, is steamed, the ammonia is driven off and the pigment is thereafter able to resist the action of water.

LACTATION. See MILK, HUMAN.

LACTEALS, lăk'tē-ąlz, vessels which, together with the lymphatics, constitute one system for conveying a fluid or fluids from various organs of the body to the veins near their terminations in the heart. The fluid which the lacteals convey is milky after a full meal, and is called chyle, though during intervals of fasting it is a yellowish lymph, as in the lymphatics. The lacteal vessels commence on the intestinal villi, unite with one another in the mesentery and, after leaving the mesenteric glands, discharge their contents for the nourishment of the body into the receptaculum chyli, in front of the second lumbar vertebra. See also LYMPH; LYMPHATIC GLANDS.

LACTIC ACID ($C_3H_6O_3$). Scheele, in 1780, was the first to describe the acid present in sour milk. In 1832 Liebig and Mitscherlich showed it to be a distinct acid. Lactic acid is widely distributed in nature, occurring in the sap of several plant families, in sour milk, in the saliva, blood and urine, and the brain and gastric juice of animals. Lactic acid is a result of the fermentation of the various sugars, and of dextrin and mannitol. There are many modes of preparing it artificially; and its isomeric varieties, of which four have been described, have excited much attention. Its two principal kinds are fermentation lactic acid and paralactic or sarcolactic acid. The former is got from concentrated sour whey by removing the curd, adding lime, filtering, diluting with water, removing the lime with oxalic acid, evaporating and extracting the lactic acid with alcohol. It is more usual, however, to get it by what is called the lactic fermentation, from sugar or saccharine substances. The sugar is dissolved in water; to the solution is added sour milk or decaying cheese and a quantity of fine, well-washed prepared chalk, and the mixture is kept for about four weeks at between 86° and 95° F. Fermentation ensues and much lactic acid is formed, which combines with the chalk and forms lactate of calcium. This salt is then decomposed by sulphuric acid, filtered, and the fluid is boiled with carbonate of zinc. Lactate of zinc is formed, which is collected and decomposed by sulphureted hydrogen. The fluid filtered from the sulphide of zinc is evaporated, and the syrupy fluid which remains contains the lactic acid. Lactic acid of commerce is a syrup (specific gravity, 1.215) which contains a small percentage of water. It remains liquid even at very low temperatures. It

deliquesces in moist air, dissolves in all proportions in alcohol and water, has no odor and has a purely sour taste. It cannot be distilled, or even heated, without undergoing decomposition, lactic anhydride or lactolactic acid being formed; at a higher temperature carbonic oxide is evolved, and a variety of products distil over, and charcoal is left in the retort. By oxidizing agents, such as bleaching-powder and nitric acid, it is converted into oxalic acid; by oxide of manganese into aldehyde.

The paralactic or sarcolactic acid was observed in flesh by Berzelius in 1806, and he considered it the same as that derived from milk. Liebig showed that they were not absolutely identical, but the nature of their differences is at present unknown. This acid is readily got from the cold aqueous extract of meat by adding a solution of baryta, coagulating and removing albumen, concentrating the solution, precipitating the baryta, filtering and evaporating. The syrupy residue contains the acid. Paralactic acid can be distinguished from lactic acid by its property of rotating the plane of polarization to the right, lactic acid being inactive. The calcium salt of the fermentation acid contains more water of crystallization; when heated it retains it for a shorter time; and it is more soluble than the sarcolactate. Again, the zymolactate of zinc contains more water, loses it more quickly on heating, but itself endures a much higher temperature without decomposition than the sarcolactate. The zymolactate is much less soluble in water and in alcohol than the other; the crystalline forms of the two salts also are different. The other salts of lactic acid are for the most part crystalline, and soluble in water. Lactic acid forms compound ethers and substitution acids.

In the arts, lactic acid is used in the dyeing of wool when mordanting with potassium dichromate, supplanting tartaric and oxalic acids. It is less corrosive, and imparts a finer feel and lustre. With an equal part of potassium lactate it forms lactolin, regarded as superior to the plain acid. Lactic acid is a solvent for several dyestuffs which are insoluble in water, and is of special use in the dyeing and printing of cotton textiles. It is also used in the tanning industry, in coloring, bating and plumping the skins, to which it imparts a fine grain. In the distilling industry it is used to check the development of deleterious bacteria.

In medicine, lactic acid is used in laryngeal tuberculosis, and diluted with six parts of water, it is applied locally in diphtheria and croup to dissolve the false membrane. It is also used as a local application in tuberculous ulcers, lupus and epithelioma.

LACTIC FERMENT, a minute organism which, under the microscope, is seen to consist of small elliptical cells, generally detached, but sometimes occurring in chains of two or three. It is developed in milk when it is allowed to stand for some time, and is the cause of the milk becoming sour, the sugar of the milk changing into lactic acid. It is also developed when cheese is added to a solution of sugar, and kept at a temperature of 35° to 40°. See also FERMENTATION; LACTIC ACID.

LACTOMETER, or **GALACTOMETER,** an instrument for ascertaining the different qualities of milk. Several instruments of this sort have been invented. One consists of a glass tube one foot long, graduated into 100 parts. New milk is filled into it and allowed to stand until the cream has fully separated when its relative quantity is shown by the number of parts in the 100 which it occupies. Another is a specially constructed hydrometer used to determine the specific gravity of milk for the purpose of detecting adulteration with water. It has been learned by experience that the specific gravity of the milk of healthy cows does not fall below 1.029. See MILK ADULTERATION.

LACTOSE, sugar of milk ($C_{12}H_{22}O_{11}$), a substance obtained by evaporating whey, filtering through animal charcoal and crystallizing. It forms hard, white, semi-transparent trimetric crystals, which have a slightly sweet taste, and grate between the teeth. It is convertible like starch into glucose by boiling with very dilute sulphuric acid.

LACTUCARIUM, the brown viscid juice of the common garden lettuce, obtained by incision from the leaves and flowering stems, and dried in the air. It is a mixture of various substances, including lactucone, lactucin, lactucic acid, mannite, albumin, etc. Lactucarium is hypnotic, anti-spasmodic and sedative, and has been recommended in cases in which opium is inadmissible, particularly for children. It has been administered with advantage in chronic rheumatism, diarrhœa and asthma, in doses of two to five grains.

LACUNAR, lą'kū'när, the Latin word defines a wainscoted and gilded ceiling, a panel-ceiling, and obtains its intent from the *sunken spaces* (coffers) of the paneling. It applies in architecture also to the under surface of the member of an order, the under side of the larmier or corona of a cornice, etc.

LACUSTRINE DEPOSITS, sediments laid down in lakes. They may be gravels consolidated into conglomerates, sands into sandstones, clays into shales, or marls into limestones. See LAKES, section on *Lakes* in article on GEOLOGY, and section on *Sedimentary Rocks* in article on ROCKS.

LADAKH, lą'däk', India, a province of Kashmir including the valley of the upper Indus and its tributaries. It is located between the Himalayas and Karakorum and has a climate ranging from fierce heat in the day time to icy nights. Vegetation is hindered by the dryness of the atmosphere, grain and fruit growing being restricted to the sheltered valleys and then only in stunted growths; and forests are few. The area is about 8,000 square miles, all at a great elevation, from 9,000 to 14,000 feet. A number of salt lakes furnish an endless supply of borax. Its game consists of wild horses, ibex, wild sheep, hares, etc. Goats supply a short wool which is used in the production of shawls. The inhabitants, 186,656, approximately, are small, unclean Turanians, strong of body and for the most part agriculturists. They are Buddhists and each village has its monastery. Except by the wealthy, polyandry is the rule. Commerce consists chiefly of the passage through from China of wool, tea, gold dust, silver, Indian cotton, skins, leather, grain, fire-arms, etc.; but native wool,

borax, sulphur and dried fruit are exported. Consult Cunningham, 'Ladakh, physical, statistical and historical' (London 1854); De Bourbel, 'Routes in Jammu et Kashmir' (Calcutta 1897); Adair, 'Sport and Travel in Baltistan and Ladakh' (London 1899); Younghusband, 'Kashmir' (London 1911); Neve, 'Thirty Years in Kashmir' (New York 1913).

LADARIO, lą'dą-ryō, an arsenal and small town in Matto Grosso, Brazil, about five miles east-southeast of Corumbá on the Paraguay River; one of the three arsenals of the Brazilian navy. See BRAZIL — NAVY.

LADD, George Trumbull, American educator: b. Painesville, Lake County, Ohio, 19 Jan. 1842. The Ladds, originally of Norman French extraction, intermarried with the Welsh family of Williams and the name appears in English history as early as the 13th century. Dr. Ladd is a lineal descendant, through the paternal line, of Elder William Brewster and Gov. William Bradford. He was graduated at Western Reserve University, A.B., in 1864; A.M., in 1867; and his honorary degrees are D.D. (1879), LL.D. (1895), Andover Theological Seminary; A.M., Yale (1881); LL.D., Princeton (1896). After graduation at Western Reserve University he spent two years in business, and then entered Andover Theological Seminary, whence he graduated in 1869. In 1869–71 he preached in Edinburg, Ohio, and in 1871–79 he was pastor of Spring Street Congregational Church, Milwaukee, Wis. In 1879 he was called to the chair of philosophy at Bowdoin College, and held that position until he became professor of philosophy at Yale College in 1881. After the death of President Porter (1892) he was made Clarke professor of metaphysics and moral philosophy, which position he held until 1906, when he resigned. His services to the cause of education have carried him, at various times, beyond Yale. During the academic year 1895–96 he was chosen a member of the faculty of Harvard University and conducted the graduate seminary in ethics, and in 1906–07 he was substitute professor in Western Reserve University; since then, much of his time has been spent in lecturing and travel upon important educational missions in foreign lands. Twice he was invited by the Imperial Educational Society of Japan to deliver courses of lectures, and in the summer of 1892 and again in 1899 he visited and lectured at Doshisha, Kioto, Tokio, Hakone and Kobe. In this period Professor Ladd for 16 months delivered courses in the Imperial Universities of Tokio and Kioto, and in Count Okuma's and other private universities, and in the government business colleges where he spoke on "Commercial Ethics," and made many other public addresses. His lectures on "Commercial Ethics" were later adopted as a textbook, and his other writings have been adopted as textbooks in Russia and other countries, as well as in Japan and India. In the spring of 1907 he went to Korea as guest and "unofficial adviser" of Marquis Ito, returning to the United States by way of Honolulu, where a month was spent in lecturing to teachers. For his services to the cause of education in Japan he was thrice admitted into audience with the emperor, the last in private when he was invested with the third degree of the order of the Rising Sun. He was elected Gold Medalist of the Imperial Educational Society, and on the occasion of his third and last visit received the second degree of the order of the Rising Sun at the hands of the emperor.

In 1899–1900 he lectured on philosophy before the University of Bombay, India, and on the philosophy of religion at Calcutta, Madras, Benares and elsewhere. The lectures in Convocation Hall, Bombay University, were unique, inasmuch as no one before that time had lectured under its auspices, which honor was, in part, an official justification of the substitution of Professor Ladd's books for those of Herbert Spencer as required reading for the M.A. degree. His visits to Japan, and especially to Korea in the critical time of the readjustment of the political and social relations of the two countries, constitute an important factor in their history.

His contributions to the science of psychology and philosophy are widely known. He was one of the founders of the American Psychological Association, was its second president and its delegate to the International Congress at Paris in 1910. Among the most permanent of his achievements is the founding of the psychological laboratory at Yale, which, under his guidance, became one of the best equipped in the world. Up to the time of his resignation in 1906 there proceeded from Yale a continuous stream of teachers of philosophy, whose success has been largely due to the teaching and influence of Professor Ladd.

His position in American philosophy is sufficiently indicated by the appended list of his works. By some critics he has been erroneously called a disciple of Lotze and Porter, a theological apologist and defender of the traditional views, none of which appraisements is supported by the facts of his mental development. The fact is Ladd never studied with either Lotze or Porter, or became acquainted with their works until he had been a student of philosophy for 20 years. For many years he devoted himself to his great work, 'The Doctrine of Sacred Scripture,' from which, when completed, he turned exclusively to the problems of philosophy; but at no time has he been anybody's disciple, or adopted any system, still less has he founded any "school." His freedom from scholastic bias, combined with sagacity of judgment and catholicity of taste, accompanied by great patience and capacity for hard work, which are the strongest marked elements of his personality and temperament, scarcely warrant his being called a "dogmatist," but rather a "critical realist," or "radical rationalist."

Professor Ladd's published works include volumes on technical theology, psychology, philosophy and education. Besides these works he has written extensively on his travels in Japan, Korea and India, and on questions connected with politics and the great war, upon social criticism and practical ethics. He has also been a frequent contributor to the technical journals, whose indices will serve as guides. His more important publications are 'Principles of Church Polity' (1882); 'Doctrine of Sacred Scripture' (1884); 'Outlines of Philosophy' (trans. of Lotze, 5 vols., 1887); 'Elements of Physiological Psychology' (1887, revised with R. S. Woodworth 1914);

'What is the Bible?' (1888); 'Introduction to Philosophy' (1889); 'Outlines of Physiological Psychology' (1890); 'Philosophy of Mind' (1891); 'Primer of Psychology' (1894); 'Psychology Descriptive and Explanatory' (1894); 'Philosophy of Knowledge' (1897); 'Outlines of Descriptive Psychology' (1898); 'Essays on the Higher Education' (1899); 'A Theory of Reality' (1899); 'Lectures to Teachers on Educational Psychology' (in Japanese); 'Philosophy of Conduct' (1902); 'What Can I Know?' 'What ought I to Do?' 'What Should I Believe?' (1914–15).

LADD, Herbert Warren, American journalist and politician: b. New Bedford, Mass., 15 Oct. 1843. After a high school education he secured a position on the staff of the New Bedford *Mercury,* and during the Civil War went to the field with the 43d and 44th Massachusetts regiments. His report of General Foster's Tarboro march was published in the Boston *Journal* before the New York papers had news of it. He issued a Sunday edition of the *Mercury* to announce the battle of Fredericksburg, the first Sunday paper published in New England outside of Boston. In 1864 he entered the dry goods business and in 1871 formed the firm of Ladd and Davis in Providence, which in 1887 was incorporated as the H. W. Ladd Company, of which he was president. He founded the Commercial Club in Providence, was vice-president of the Board of Trade for two years, was a generous patron of Brown University, and in 1891 presented to the university a fully equipped astronomical observatory. In 1889 he was elected governor of Rhode Island, was a candidate for that office in 1890 and was defeated, but was re-elected in 1891.

LADD, William, American philanthropist: b. Exeter, N. H., 1778; d. Portsmouth, N. H., 9 April 1841. He was graduated at Harvard College in 1797, became a sea captain, but retired at the outbreak of the War of 1812, and subsequently took an active part in organizing the American Peace Society, of which he was for many years president, and in behalf of which he labored efficiently until the close of his life. In the interests of this society he edited the *Friend of Peace,* commenced by Dr. Noah Worcester, and the *Harbinger of Peace,* and published a number of essays and occasional addresses on the subject of peace. He carried his views to the extent of denying the right to maintain defensive war, and caused this principle to be incorporated into the constitution of the American Peace Society.

LADEGAST, Friedrich, German organ builder: b. Hermsdorf, 30 Aug. 1818; d. 1905. He learned organ construction at Rochlitz, Saxony, through his brother Christlieb, then worked in several localities and established himself (1846) at Weissenfels. Most notable of his works were the reconstruction of the organ in Merseburg Cathedral (1855) and the construction of the Leipzig Nikolaikirche organ (1859–62) with four manuals and 85 stops. He trained his son Oskar, who was born 26 Sept. 1856, in the profession and they have built many large as well as ordinary organs.

LADENBURG, Albert, German chemist: b. Mannheim, 2 July 1842; d. 1911. He studied at Heidelberg, Berlin, Ghent and Paris and became instructor (1868) at Heidelberg, adjunct professor (1872) and professor at Kiel (1873) and then (1889) at Breslau. He did useful work on the synthesis of alkaloids and the constitution of benzol. He wrote 'Vorträge über die Entwickelungsgeschichte der Chemie in den letzten 100 Jahren' (Brunswick 1869; 3d ed., 1902); 'Theorie der aromatischen Verbindungen' (ib. 1876); 'Handwörterbuch der Chemie' (13 vols., Breslau 1883–95); 'Naturwissenschaftliche Vorträge in gemeinverständlicher Darstellung' (1908).

LADIES' CATHOLIC BENEVOLENT ASSOCIATION, The. This association was instituted 9 April 1890, and chartered under the laws of Pennsylvania in June of the same year. The association proposes as its objects, as set forth in its incorporation articles, are to write into a fraternal sisterhood all Catholic women; to elevate them morally, mentally and socially; to educate them in integrity and frugality, and to mutually aid and assist each other by providing relief and death benefits to its members. On 1 Jan. 1916 it had a membership of 157,525 in 1,253 subordinate branches, located in 29 States. Its disbursements in death benefits to that date was $13,640,007.48, with relief benefits of $23,560. Its disbursements in 1915 were $1,369,920.46—death benefits, $1,327,989.51; other disbursements, $41,930.95. Its recording and financial office is located at 443 West 11th street, Erie, Pa.

LADIES' LOYAL ORANGE ASSOCIATION. See ORANGEMEN.

LADIES OF THE MACCABEES. A woman's beneficial society, organized 24 March 1886. This was the first society in North America composed exclusively of women, to give fraternal life insurance to women. The society has a beautiful ritual used by its lodges, and inculcates the principles of sisterly love and fraternal assistance. In its inception the society was an auxiliary socially of the Knights of the Maccabees, but always had entire charge of its own finances. The slight connection was severed in a few years and it became an absolutely independent society. It offers insurance to women for whole life with disability and old age benefits, also a term plan and a maternity benefit. Several years ago the life benefit protection was changed from the current cost plan to adequate rates and the field extended from the State of Michigan only to any of the States of the Union in which it was considered advisable to organize. The order now has 51,000 members and is doing business in 21 States. It has beds in several hospitals, endowed in perpetuity, where the members may receive free treatment; also a bed for the little ones in the Children's Free Hospital, Detroit. It has a relief fund for the benefit of its members in financial distress. The society has paid for claims nearly $10,000,000 and has a reserve fund of a million and a quarter dollars. The finances are managed entirely by women. The president, Mrs. Frances E. Burns, has filled this office since 1896, and the secretary, Dr. Emma E. Bower, has held her office since 1893. The headquarters are at Port Huron, Mich.

LADIES OF THE MACCABEES OF THE WORLD. See WOMAN'S BENEFIT ASSOCIATION OF THE MACCABEES, THE.

LADIES OF THE MODERN MACCABEES. See MACCABEES, THE LADIES OF THE.

LADINO, lą-dē'nō, (1) a hybrid language of the Jews of Hamburg, London, Amsterdam, southern France, North Africa and Constantinople. (2) The old Castilian language. (3) In Central America and Mexico the word is used to designate the descendants of whites from Indian mothers. (4) The Romansch dialect used in the Engadin, etc.

LADISLAS, ląd'ĭs-ląs, or **LADISLAUS I**, the Saint, king of Hungary: b. Poland, 1040; d. 29 July 1095. He was son of Bélas, fought and conquered the Cumans (1074) and was made king of Hungary (1077) after the death of his brother Gejza. In 1091 he overthrew the Croatians and placed his nephew Almos as ruler over them. He organized the conditions of the Christian Church in Hungary, killed out the remnants of heathendom, converted the colonized Cumans and issued strict laws. On account of his services to Christianity he was canonized in 1192.

LADISLAS IV, The Cuman, king of Hungary: born about 1262; d. Körösszeg, 1290. He was son of King Stephan V and reigned from 1272 to 1290, when he was assassinated by three Cumans for attempting to get rid of his wife so as to marry another. With the Magyars and Cumanians he fought with Rudolph of Hapsburg at Durnkrüt (26 Aug. 1278), overthrowing Ottokar of Bohemia. Later in life he threw in his destiny with the Cumanians he had favored, and of whose blood he was on his mother's side. The country, however, fell into dire anarchy and he died fighting his enemies and the Pope.

LADISLAS V, called the POSTHUMOUS, king of Hungary and Bohemia: b. Komárum, 27 Feb. 1440; d. Prague, 23 Nov. 1457. He was son of Emperor and King Albrecht II and Elizabeth, daughter of Emperor Sigismund, and born four months after his father's death. The estates of Hungary had elected Wladislas III of Poland as king, but Elizabeth forced the infant's coronation. He was placed in the care of Frederick III, his uncle, as guardian, and he was acknowledged king of Hungary on the death (1444) of Wladislas and was crowned in 1453. Under the evil tutelage of his uncle Ulrich Cillei he cared little for his duties as ruler and took no part in the glorious raising of the siege of Belgrade (1456) by Janos Hunyadi, the great general who administered the government during his minority. On the assassination of the traitorous Ulrich he had young Hunyadi beheaded, but was forced to flee from Hungary to Prague, where he died suddenly, presumably of poison, as he was preparing to marry a French princess.

LADISLAS, king of Naples: b. 1375; d. Castelnuovo, 6 Aug. 1414. He was the son of Charles of Durazzo, and on his father's assassination, the regency was conducted by his mother, Margaret, who won the support of the Pope when the nobility set up Louis II of Anjou as candidate to the throne. In 1390 Pope Boniface IX had him crowned, and after eight years' warfare he drove the invaders out. He attempted (1403) to gain the Hungarian throne, utilizing the great schism and the consequent political confusion to gain power over the Church and Rome. Failing in his schemes he was forced to sign the peace (25 June 1412) after his defeat at Rocca Secca by Pope John XXIII; but he took Rome the following year. Consult Creighton, 'History of the Papacy' (Vol. I, London 1882).

LADISLAS II, Jagello, king of Poland: b. 1348; d. Grodek, 31 May 1434. He was the son of Grand Duke Olgierd of Lithuania and succeeded his father (1377) and was baptized as a Christian (1386), receiving the name Vladislas. He married, in the same year, Hedwig, daughter and heiress of Louis the Great, and was crowned king of Poland under the title Ladislas II. Under his rule Poland progressed greatly, and, in the battle of Tannenberg (1410), he defeated the Teutonic Order of Knights. He granted the nobility great rights and freedom; in 1400 he founded the Cracow University.

LADISLAS III, king of Poland: b. 1424; d. Varna, 10 Nov. 1444. He was son of Ladislas II, was crowned in 1434 and took over the government in 1439, becoming elected in 1440 king of Hungary. But his coronation, at Stuhlweissenburg, did not take place till he had successfully fought against the widow of Albrecht II, who upheld the rights of her infant son Ladislas Posthumous; he, in 1442, married the widow, Elizabeth, who died three days later leaving him an undivided throne. With an army of 20,000 Hungarian and Wallachs under the great general Hunyadi he entered Bulgaria against the Turks and, after some successes, was defeated and killed at the battle of Varna (1444).

LADISLAS IV, king of Poland: b. Cracow, 1595; d. Merecz, 20 March 1648. He was son of Sigismund III, and was elected tsar of Russia (1610), making Moscow his residence. But the Russians (1612) rose in rebellion and elected another tsar (Michael Romanav) and he was ejected. In 1632, on Sigismund's death, he was called to the throne of Poland, when he started a successful campaign against Russia, defeating the tsar's force and compelling surrender (1633), and meeting with equal success against the Turks. The nobility gained great supremacy over the monarch's powers, taking over the army and leaving him 1,200 guards, and great disturbances occurred among the Cossacks in his last years.

LADISLAV I, lą-dĭs'ląf, or **VLADISLAV I**, king of Poland: b. 1260; d. 1333. He was called "Lokietek," the *Yard-long*, and was son of Duke Casimir of Cuiavia and was acknowledged king (1288) by a part of the nobility. It was not, however, till after the death of the Bohemian King Venceslas and after fighting unsuccessfully against the former and Duke Heinrich of Breslau and being exiled, that he (1305) conquered Cracow to rule there. In 1312 he crushed his enemies, becoming crowned, finally, at Cracow as king of Poland in 1320. Through the marriage of his daughter Anna with Prince Gedimin Lithuania became united with Poland.

LADMIRAULT, ląd'mē'rō, **Louis René Paul de**, French general: b. Montmorillon, 17 Feb. 1808; d. Paris, 3 Feb. 1898. He went to Algiers (1831) as lieutenant, serving 22 years there and becoming general of a division. He

commanded a division (1859) in the war with Italy and was wounded at the battle of Solferino. In 1870 he was given command of the 4th corps with which he took part in the battles before Metz. On 18 August he defended Amanvillers with great bravery and success against the Prussian 9th corps. He was taken prisoner in Metz, but on his release took part in the fight against the Commune, becoming governor of Paris till 1878. He was member of the Senate 1876–91. He wrote 'Bases d'un projet pour le recrutement de l'armée de terre' (Paris 1871).

LADOGA, lä'dō-gä, the largest lake of Europe, situated in the northwest of Russia, 40 miles east of Saint Petersburg. Greatest length, north to south, 130 miles; average breadth, about 75 miles; area, 7,156 square miles or 31 times as large as the Lake of Geneva. It receives no fewer than 70 streams, the principal of which are the Volkhov and Sias, which enters it on the south, and the Svir, which enters it on the east, bearing the surplus water of Lake Onega and has the Neva for its outlet. It is icefree from May to October; its fauna, Arctic in character, is exceptionally rich and varied. It contains numerous islands, and its shores are generally low. Peter the Great Canal (1718–31) and the Alexander II Canal (1861–66) connect the Neva and the Volkhov; Sias Canal (1764–1802) and the Empress Maria Feodorovna Canal (1883) connect the Volkhov and the Sias; the Svir Canal and the Alexander III Canal connect the Sias and the Svir. These canals form a navigable chain around the south of the lake. On two of the islands in the north of the lake there are ancient monasteries, founded, respectively, in 960 and 1393, which are regarded with great veneration, and to which thousands of pilgrims annually repair.

LADRONES, la-drōnz', or **MARIANNE** (mā-rĭ-ăn') **ISLANDS,** a group of 16 islands in the north Pacific Ocean, north of the Caroline Islands and 1,500 miles east of the Philippines. The northern group is volcanic and uninhabited. Guahan is the southernmost and largest of these islands; and next in importance is Saipan, the seat of administration. The islands have a total area of 250 square miles. The inhabitants, who are mainly indigenous, are tall, robust and active, and naturally acute, lively and ingenious. Their huts are constructed of palm-trees, and divided by mats into different apartments. Rice, sugar, maize, indigo, coffee and tobacco are the main products, with the bread-fruit tree, first discovered here. The islands were discovered by Magellan in 1521, and were settled by the Spaniards. Magellan called them Islas de Ladrones (Thieves' Islands), because the Pacific pirates had a rendezvous here. Toward the end of the 17th century they received the name of Mariana or Marianne Islands, from the queen of Spain, Marianne of Austria, the mother of Charles II, at whose expense the Jesuit missionaries were sent over who settled here in 1667. The chief inhabitants are settlers from Mexico and the Philippines. Guahan (Guam) was ceded to the United States in 1898, and the rest sold by Spain to Germany in 1899, becoming part of the German New Guinea Protectorate. In the early days of the Great European War they were captured by the Japanese as one of the allied nations, and are now (1917) in their possession. Pop. estimated at over 15,000.

LADY OF THE AROOSTOOK, a'roos'-tŭk, title of a novel by William Dean Howells appearing first in the *Atlantic* (1878–79), then in book form (Boston 1879).

LADY-BIRDS, beetles of the family *Coccinellidæ*. This is a very large family of small beetles of rounded, convex form, usually shining and hairless. The head is retracted beneath the pronotum, the legs are short and hidden and the elytra are usually brightly colored and marked with dark spots. These colors vary much in the same species, especially in the English *Coccinella septempunctata,*— the pet of children. The most widely known American species is the black one with two red spots (*C. bipunctata*), common all over the United States. These beetles live upon plants, shrubs and trees, depositing their eggs in little bunches on the lower sides of the leaves. The worm-like maggots are active, searching the leaves for plant-lice, which are eagerly devoured, each kind of beetle choosing a special kind of aphid for its food. In this habit the lady-birds, which are sometimes extremely numerous, perform a valuable service, since their minute prey is highly injurious to the plants. See SCALE-INSECT.

LADY BOUNTIFUL, a character in Farquhar's 'The Beaux Strategem' (1705). Widow and beneficiary of Sir Charles Bountiful and his will, she dispenses her wealth curing the Lichfield inhabitants of their maladies.

LADY CHAPEL, a chapel dedicated to the Virgin Mary, and when attached to cathedrals, generally placed eastward from the altar. The lady chapel of Westminster Cathedral is that usually known as Henry VII's. Saint Patrick's Cathedral in New York possesses a most ornate lady chapel.

LADY CRAB, a common name for the *Platyonichus ocellatus,* an American species of edible crabs beautifully covered with rings of red and purple. It is one of the group *Callinectes hastata.* There are, however, other crabs which are so termed because they all bear what is considered as an outline of the head and shoulders of a woman.

LADY-DAY, one of the quarter-days in England and Ireland, on which rent is made payable. It falls on 25 March in each year. In the Roman Catholic Church it is held as a great festival under the title of the Feast of the Annunciation. In the English Church it is observed as a feast. In France the day is termed Notre Dame de Mars.

LADY FERN, vulgar name for *Asplenium filix-fœmina.* It has ovate-oblong or broadly lanceolate, twice pinnate fronds, and is found in moist woods of Europe and North America. It is claimed by some to have the properties of a vermifuge. The British place this fern in the genus *Athyrium.* Scott refers to it in the words:

> "Where the copse-wood is the greenest,
> Where the fountain glistens sheenest,
> Where the mountain dew lies longest,
> Where the lady fern is strongest."

Edwin Lees calls it "the sweet lady fern" and Howitt says: "Do not pluck the strawberry flower nor break the lady fern."

LADY OF THE LAKE, The. Scott's 'Lady of the Lake,' published 1810, was the third of his metrical romances, following the 'Lay of the Last Minstrel' and 'Marmion.' It was in part the result of a trip which Scott had made, on legal business, into the Highland country, where he had been impressed by the romantic character of the scenery and its appropriateness to the poetic treatment of historic associations. "This poem," he said, "the action of which lay among scenes so beautiful and so deeply imprinted on my recollections, was a labor of love, and it was no less so to recall the manners and incidents introduced. The frequent custom of James IV, and particularly of James V, to walk through their kingdom in disguise, afforded me the hint of an incident which never fails to be interesting,"—that is, the participation, on the part of royalty in disguise, in a romance among humbler folk. The poem may be said to reach the high-water mark of Scott's success in blending the interest of scenery, action and simple human feeling, so far as his metrical works are concerned, though it contains nothing so fine of its kind as the account of the battle of Flodden in 'Marmion.' The characters of the king and of Roderick Dhu are brilliantly sketched; that of the young lover, Scott, as usual, found difficulty in handling. "You must know," he wrote to a friend, "this Malcolm Græme was a great plague to me from the beginning. . . . I gave him that dip in the lake by way of making him do something; but wet or dry I could make nothing of him." He also related, to illustrate his care for accuracy of detail, that he himself rode into Perthshire "to see whether King James could actually have ridden from the banks of Loch Vennachar to Stirling Castle within the time supposed in the poem." 'The Lady of the Lake,' like the earlier romances, met with instant success, and has proved lastingly popular. Incidentally, its epilogue is one of Scott's few distinguished achievements in purely lyric poetry. In the *Edinburgh Review* the work was discussed by Jeffrey, Scott's good friend but frank critic, and his summing up of its qualities remains one of the best accounts of Scott's poetic style: "A medley of bright images and flowing words, set carelessly and loosely together,—a diction tinged successively with the careless richness of Shakespeare, the harshness and antique simplicity of the old romances, the homeliness of vulgar ballads and anecdotes, and the sentimental glitter of the most modern poetry; passing from the borders of the ludicrous to those of the sublime, alternately minute and energetic, sometimes artificial, and frequently negligent, but always full of spirit and vivacity, abounding in images that are striking, at first sight, to minds of every contexture, and never expressing a sentiment which it can cost the most ordinary reader any exertion to comprehend."

RAYMOND M. ALDEN.

LADY OF LYONS, The, a play, by Bulwer-Lytton, originally called 'The Adventurer.' It was first produced in 1838.

LADY OF MERCY, Order of Our, a Spanish order dating from 1218. It was founded by James I of Aragon, in compliance with a vow made during his captivity in France. Pope Gregory IX approved the order in 1230. It was instituted to redeem Christian captives from the Moors. The order was extended to women in 1261. A branch order instituted in France was suppressed at the time of the Revolution. It is now a missionary order, mainly in South America and South Africa.

LADY OF SHALOTT, The, a maid who died for love of Sir Lancelot of the Lake. It is the title of one of Tennyson's poems (1832).

LADY OR THE TIGER, The, title of a story by Francis Richard Stockton (New York 1884). It received exceptional popularity heightened by the fact that the sequel or decision is left to the reader, thereby creating a considerable fund of conjecture and discussion. The title has become a pet phrase to express a dilemma.

LADY WINDERMERE'S FAN. Oscar Wilde had made himself notorious in affecting to write only to the few. In 'Lady Windermere's Fan' he throws his dart directly at popularity with the many. Nothing in Wilde's career is more perverse and more characteristic than the extraordinary success of his series of comedies beginning in 1892 with 'Lady Windermere's Fan.' This success is secured by an impudent practice of all the codes he had preached in his early career. And now his affronts to the public bring him fortune as well as fame. In the 80's Wilde had been the *enfant terrible* of the British Isles; he had shocked the prudes; he had pained the apostles of beauty for man's sake with his impious contempt for the British middle-class man. He had got himself lampooned and made the central figure of a Gilbert and Sullivan opera, but still he was poor. Now at the age of 38 he turns respectable as to morals and conventional as to artistic manners. Nothing could be more lofty, more smug, more British middle-class than the morals of 'Lady Windermere's Fan'; nothing could be more *au fait* according to the current English imitations of French serious drama than the innocent-guilty intrigue that it propounds. The men are long-winded praters, wise and witty and sophisticated as to words, impeccable as to their private lives. The women are dowagers and faithful wives. If any has sinned it was very long ago. The young girls are silent. In all these respects Wilde was giving the respectable English audience what it wanted. He knew that the audience would accept any amount of banality in the theatre if only it were given a dash of piquant French sauce. Above all it must not be called upon to think; it must not be brought up short with an arresting observation of real life. It would enjoy risque allusions but only as verbal badinage. It resented bitterly any attempt on the part of the dramatist to be honest. Wilde was never more witty and ingenious than he was in 'Lady Windermere's Fan' and the succeeding plays. Never, save in 'The Importance of Being Earnest,' which is a true farce, was he less honest. In his earlier work, with all his absurdities, he had been a corrective for characteristic British faults. In his society plays he pampers and coddles these faults and prospers upon them. Wilde's wit and paradox and epigram have become famous. The verbal brilliancy of his plays is what gives them continuing life. The stories are second-rate; the characters are not differentiated. All

are artificial creations in a fictitious code. But the author's own quips of observation, his turn of phrase and observation, the heartless polish of his contemptuous comedy, make the play memorable among the few examples of English comedy of manners. 'Lady Windermere's Fan' was produced by George Alexander at the Saint James' Theatre, 22 Feb. 1892; it was revived at the same theatre 19 Nov. 1904 and 14 Oct. 1911. Its first production in America was at the Columbia Theatre, Boston, 1893. It has been one of the most popular stock plays for revivals in this country, in England and on the Continent. Consult Ransome, A., 'The Life of Oscar Wilde, a Critical Study' (1912); Sherard, R. H., 'Oscar Wilde' (1906); 'The Real Oscar Wilde' (1915); Wilde, O., 'The Truth of Masks, in Intentions' (1891).

THOMAS H. DICKINSON.

LADYFISH, BANANA-FISH, or **BONE-FISH,** the name of several different marine fishes conspicuous for elegance of outline and handsome coloring. They are found mainly in the tropical regions.

LADY'S FAN, The. See GIANTS CAUSEWAY.

LADY'S, or FAIRY'S, FINGERS, GLOVE, THIMBLE, etc., are some among many gardener's names for the purple foxglove (*Digitalis purpurea*), in regard to which much provincial folklore might be cited. See DIGITALIS; FOX-GLOVE.

LADY'S MANTLE, popular name for the *Alchemilla pratensis* (Schmidt) of the *Rosaceæ* family. The *Alchemilla vulgaris L.* is also so called. This term is derived from the fact that there is supposed to be a similarity to a mantle in the shape of its leaf. It is a perennial with orbicular-reniform leaves, 5–9 lobed, more or less pubescent, serrate. Flowers are two inches broad. It grows in grassy places near the Nova Scotia, Cape Breton and eastern Massachusetts coast, but was naturalized from Europe. The *Alchemilla alpina L.* is found on Miquelon Island and on the White and Green mountains and is distinguished by its beautiful five oblong silky entire leaflets. The *Aphanes arvensis L.,* or parsley-piert, is also called *field lady's mantle.* This is found in dry fields of Nova Scotia, Georgia, Tennessee, etc., and has claims to astringent and diuretic properties.

LADY'S SLIPPER, or **MOCCASIN FLOWER,** an orchid of the genus *Cypripedium,* several species of which grow both wild and cultivated in the United States. See ORCHIDS.

LADY'S SMOCK. See CUCKOO-FLOWER.

LADYSMITH, British Columbia, city situated on Oyster Harbor, Vancouver Island, in the Nanaimo district, 17 miles southeast of Nanaimo, on the Esquimalt and Nanaimo Railway. It is a shipping point for the collieries which are located about 12 miles inland. The Canadian Pacific Railroad Company operates a train ferry from Vancouver to this point and the freight for Vancouver Island is transferred here. The city was founded during the Boer War and the streets are named after the generals who took part in that conflict. It was incorporated in 1904 and owns its own electric light and sewerage systems. The Canadian Bank of Commerce and the Royal Bank of Canada have branches here. There are four churches, two public schools and a high school. There are smelters and stove works, shingle mills, aërated waterworks, boat-building yards, etc. Oyster cultivation is carried on in the harbor and there is a large farming district tributary to the city. Pop. 3,295.

LADYSMITH, South Africa, town of northern Natal, near the Klip River, 119 miles by rail north by west of Pietermaritzburg, and 322 southeast of Pretoria. It is situated in a hilly region about 30 miles east of the Drakensberg Mountains. During the South African War of 1899–1901 Ladysmith was besieged by a strong force of Boers. The complete investment began on 2 Nov. 1899 and the relief was not effected till 28 February of the following year, or 118 days after the Boers succeeded in isolating the town. The town was held by a garrison of about 10,000 men under Sir George White, and during the siege much damage was done by the shells of the Boer artillery. Disease also carried off many of the garrison and the inhabitants. The relief was effected by General Buller after a hotly contested march by way of Pieters and Nelthorpe, to the east of the railway. Three previous attempts by the same general to relieve the town had to be abandoned owing to the strength of the Boer positions and to their superiority in long-range guns. The population numbers about 4,000.

LAEKEN, lä'kĕn, Belgium, a suburb of Brussels on the Brussels-Ostende and the Brussels-Humbeek railways. It has a royal palace, built 1782 but restored 1890 after the fire; with handsome park. On a neighboring hill is the colossal monument of Leopold I with its statue by W. Geefs. Pop. 35,024.

LAELIUS, lē'li-ŭs, (1) **Gaius,** Roman general and statesman: d. after 170 B.C. He was a friend of Scipio Africanus the elder, and fought under the latter in most of his campaigns. In 190 B.C. he was made consul in consequence of his successes in the Spanish campaign (210–206 B.C.) and in Sicily and Africa. He defeated Syphax in 203. In 170 he was ambassador to Transalpine Gaul. (2) *Gaius,* surnamed Sapiens (the Wise), son of the preceding Roman statesman and student: b. about 186 B.C.; d. 115 B.C. He was an intimate friend of Scipio Africanus the Younger which comes out clearly in Cicero's treatise 'Laelius sive de Amicitia.' In 151 he was tribune of the plebs, in 145 praetor, and in 140 was consul. His love of literature and philosophy is noted as well as his friendship and social intercourse with talented contemporaries as the philosopher Panaetius, the historian Polybius, the poets Terence and Lucilius. His early life was devoted to the study of philosophy and law. Besides figuring in 'De Amicitia,' as interlocutor, he is a speaker in 'De Senectute' and in 'De Republica.' He had some talent for military work as proved by his campaign against the Lusitanian Viriathus. He imbibed the doctrine of the Stoics from Diogenes of Babylon and Pandetius. Early in his political successes he attempted to procure a division of the public land among the people but wisdom caused him to drop the measure as inopportune; later he became an adherent of the aristocratic party.

How highly his course of life was honored is clearly shown in one of Seneca's injunctions to his friend Lucilius "to live like Laelius."

LAEMMER, lĕm'mĕr, **Hugo,** German theologian: b. Allenstein, East Prussia, 25 Jan. 1835. He studied at Königsberg, Leipzig and Berlin, obtained the degree of D.Ph. (1854) at Leipzig, became (1857) private teacher at Berlin, then made a visit to Italy. He entered the Catholic Church (1858) and was ordained a priest (1859) and made doctor of theology at Breslau. He was made prelate-prothonotary in 1882. He wrote 'Misericordias Domini' (1861) in justification of his entering the Catholic Church; 'Clementis Alexandrini de logo Doctrina' (1855); 'Eusebii pamphili historiæ ecclesiastici libri decem' (1859-62); 'Zur Kirchengeschichte des 16ten und 17ten Jahrhunderts' (1863; 2d ed., 1892); 'De Cæsaris Baronii literarum commercio Diatriba' (1903).

LAENNEC, René Théophile Hyacinthe, rĕ-nā ta-ō-fēl ē-ä-sănt lĕn-nĕk, French physician: b. Quimper, France, 17 Feb. 1781; d. near Douarnenez, France, 13 Aug. 1826. He took his degree of doctor of medicine in 1814 and his professional reputation was already so high that in the same year he was appointed principal editor of the *Journal de Médecine.* In 1816 he was appointed chief physician to the Hôpital Necker, and soon after made the notable discovery of mediate auscultation, that is, of the use of the stethoscope. The original discovery, however, is claimed for Auenbrugger (q.v.). In 1819 he published his 'Traité de l'auscultation médiate,' having read a memoir on the subject to the Academy of Sciences in the previous year. The remainder of his life was devoted to the perfecting of this new system of diagnosis, and so far as diagnosis is concerned his treatise has produced an effect not attained by any other work. The special study of Laennec was diseases of the chest, and by means of auscultation, either by the direct application of the ear, or of the stethoscope as an auxiliary, he elucidated the pathology of these diseases, which were previously involved in the greatest obscurity. His 'Life' by Saintignon was published in 1904.

LAERTES, king of Ithaca and father of Ulysses. He had been one of the heroes engaged in the chase of the Calydonian boar, and in the expedition of the Argonauts. The absence of his son in the Trojan War plunged him into melancholy; but the return of Ulysses restored his energies, and he took part in the fight with the suitors of Penelope.

LÆSA MAJESTAS, Latin term meaning injured majesty. It is a phrase taken from the Roman law and entering modern civil law to designate an offense against the person or dignity of the king; therefore high treason. Consult Glanvil, lib. 5, c. 2; Blackstone's 'Commentaries,' 75.

LÆTARE (lę-tā'rē) **SUNDAY,** called also MID-LENT, the fourth Sunday in Lent. The introit for the day in the Roman Catholic Church begins with the words, 'Lætare, Jerusalem,' from Isaiah lxvi, 10; hence the name.

LAFARGE, Marie Cappelle, French victim of circumstantial evidence: b. Villers-Helon, 1816; d. Ussat, 7 Nov. 1852. Of distinguished family and highly educated, she married (1839) an iron-master of Corrèze and was accused of poisoning him when he died (1840) from eating poisoned sweetmeats. She had purchased arsenic from a pharmacy and could not clearly account for its use; her neighbors testified against her, and she had been accused of the theft of diamonds from a lady friend (1839) which were then, in part, discovered in her residence and was sentenced to two years' imprisonment for the theft. The evidence of witnesses as to the poison was contradictory and her lawyer, the celebrated Paillet of Paris, made a good defense. But the animosity of the judge prevailed and she was adjudged guilty and sentenced to hard labor for life, and later evidence in her favor did not stay the punishment. Friends gained her release after 12 years in prison, but she soon died from the experience she had gone through. While in prison she wrote 'Memoires' (Paris 1841), which have been read with much interest by the public. She also wrote 'Heures de Prison' (1853) and 'Une femme perdue,' a drama.

LAFAYETTE, lä-fä-ĕt, or **LA FAYETTE,** Marie Jean Paul Roch Yves Gilbert Motier, MARQUIS DE, French soldier and statesman: b. Chavagnac, near Brioude, Auvergne (in the present department of Loire), 6 Sept. 1757; d. Paris, 20 May 1834. He belonged to an eminent family of France. He was educated in the College of Louis le Grand in Paris, in 1774 entered the army as an officer of the Guards, and on hearing of the Declaration of Independence by the American colonists determined to lend them his assistance. In 1777 he left France for America with 11 companions, among whom was Baron De Kalb, set sail from Pasages, Spain, in a yacht equipped by himself, and arrived at Georgetown, S. C., 14 April. He proceeded to Philadelphia, and to the Congress there in session volunteered his services without pay. On 31 July he was commissioned major-general, and not long after became a member of Washington's staff. He was severely wounded at Brandywine (11 September), while rallying the American forces from a retreat; was appointed to the command of an expedition for the proposed invasion of Canada, never executed owing to lack of means, and in April 1778 was ordered to join Washington at Valley Forge. On 19 May he was surprised by General Grant with 5,000 troops at Barren Hill (12 miles from Valley Forge), where he had taken post with 2,100 troops and five cannon. Though nearly surrounded by a superior force, he succeeded in extricating himself, recrossing the Schuylkill and reaching Valley Forge in safety. He received the thanks of Congress for his conduct at Monmouth (28 June), where he fought brilliantly under Lee. War between France and England having broken out, Lafayette returned (January 1779) to place himself at the disposal of the French government; obtained for the American cause financial assistance and the reinforcement of a fleet and 6,000 troops under Rochambeau, and 11 May 1780 rejoined the American army. He was shortly afterward stationed at Tappan with a light infantry corps of observation, and was a member of the court of general officers by which Major André was tried and condemned to death (29 September). On 20 Feb. 1781 he was sent by Washington with 1,200 New Eng-

land and New Jersey troops to aid in the defense of Virginia. Reinforced, he pursued Cornwallis from near Charlottesville to Yorktown, thus contributing to the decisive operations by which the war was virtually concluded. He sailed from the United States in December 1781, but revisited America in 1784, when he was enthusiastically received. Lafayette was called to the Assembly of the Notables in 1787, and was elected a member of the States-General, which took the name of National Assembly (1789). Two days after the attack on the Bastile he was appointed (15 July) commander-in-chief of the National Guard of Paris, and gave them the tricolor cockade. It was through his means that the lives of the king and queen were saved from the mob that had taken possession of the palace at Versailles (5–6 October). After the adoption of the Constitution of 1790 he resigned all command and retired to his estate of La Grange. He had previously resigned his title, the abolition of titles having been decreed by the National Assembly. The first coalition against France (1792) soon called him from his retirement. Being appointed one of the three major-generals in the command of the French armies, he established discipline and defeated the Austrians and Prussians at Philippeville, Maubeuge and Florennes, when his career of success was interrupted by the factions of his country.

During the Reign of Terror commissioners were sent to arrest him, but he escaped to Flanders. Having been captured by an Austrian patrol (19 August), he was delivered to the Prussians, by whom he was again transferred to Austria. He was carried with great secrecy to Olmütz, where he was subjected to much privation and suffering, and whence he was not released until 25 Aug. 1797. He returned to his estate at La Grange, and taking no further part in public affairs devoted himself to agricultural pursuits. He sat in the French Second Chamber from 1818–24 and from 1825–30 was leader of the opposition. In August 1824 he landed at New York on a visit to the United States, upon the invitation of the President at the request of Congress, and was received in every part of the country with the warmest expression of delight and enthusiasm. Congress voted him $200,000 and a township of land, his own fortune having been mostly lost by confiscation during the Terror. During the Revolution of July 1830 he was appointed general-in-chief of the National Guard of Paris, and though not personally engaged in the event, was, through his activity and name, of the greatest service. When the National Guard was established throughout France, after the termination of the struggle, he was appointed their commander-in-chief. Of Lafayette, Edward Everett said: "Who, I would ask, of all the prominent names in history, has run through such a career, with so little reproach justly or unjustly bestowed." At the celebration of the centennary of the surrender at Yorktown a representative of his family was present as the guest of the nation. Early in 1917 the historic chateau in which Lafayette was born was purchased by the French Heroes Fund, an American organization, to be restored and perpetuated as a memorial and museum of American and French patriotic emblems. Consult 'Memoirés et Manuscrits de La Fayette' (8 vols., Paris 1837–40); Sarrans, 'General Lafayette and the French Revolution of 1830' (2 vols., London 1832); Tower, 'The Marquis de La Fayette in the American Revolution' (2 vols., Philadelphia 1895); Tuckerman, 'Life of Lafayette' (New York 1889); Whitman, 'Lafayette in Brooklyn' (New York 1905).

LAFAYETTE, Ala., town and county-seat of Chambers County, on the Central Railroad of Georgia, 85 miles northeast of Montgomery. Here is the seat of Lafayette College (q.v.), founded in 1885. There is a large trade in cotton and other products, the town being a distributing point for a large section of country. Pop. 1,632.

LAFAYETTE, Ind., city and county-seat of Tippecanoe County, on the Wabash River, and the Cleveland, Cincinnati, Chicago and Saint Louis, Chicago, Indianapolis and Louisville (Monon), the Lake Erie and Western and the Wabash railroads, 64 miles northwest of Indianapolis and 120 miles southeast of Chicago. The Terre Haute, Indianapolis and Northwestern, the Fort Wayne Northern Indiana and the Battle Ground traction lines also connect the city with outside points. LaFayette derives its chief business from agriculture, being the farming and manufacturing centre for the surrounding country. Other industries are carpet mills, soap factories, flour mills, wire and iron works, foundries and machine shops, electric accessories, automobile factories, agricultural implements, lumber and carriage works. There are five national, two State banks and one savings bank and two loan and trust companies having a combined capitalization of $965,000 and deposits of about $13,000,000. There are also two building and loan associations. There are 31 church edifices. LaFayette is the seat of Purdue University, embracing the State Agricultural College, contains a high school, supplemented by an excellent public school system, a public library containing over 20,000 volumes and the Indiana State Soldiers' Home. Here also is the Wabash Valley Sanitarium. The city stands six miles above the site of the old French fort, built in 1720, and called Post Oniatanon. In 1760 the fort was surrendered to the British, but later in the same year was captured by the Indians. LaFayette was first chartered as a city in 1853. It is governed under the General Indiana Charter which went into effect in April 1905, by a board of public works composed of three members and a city council composed of 10 members elected for four years. The city owns and operates the waterworks, has electric lights, electric street railway and a well-equipped fire department. The foreign element in the population is small. Pop. 20,081; including West LaFayette about 30,000.

LAFAYETTE, La., parish-seat of Lafayette Parish, division terminal Southern Pacific Railroad, with shops and roundhouse, 144 miles west of New Orleans. Elevation, 41 feet. Forty miles from Gulf, in the heart of a fertile, undulating prairie. Is the commercial centre of a region noted for its cane, cotton, corn and rice, and is three miles from the Anse-La-Butte oil fields. Here is located the Southwestern Louisiana Institute, established in 1900, a State coeducational institution of academic and technical learning, with agriculture, domestic

MARQUIS DE LAFAYETTE

science and commerce, and teacher-training for each of these, and Mount Carmel Academy established in 1835. Has two large brick public schools, six church buildings, three banks, flour hotels, $50,000 theatre, two wholesale houses, cotton oil mill, two ice plants, two cotton gins and one of the largest sugar refineries in the State; three newspapers and modern post-office building; commission form of government and municipal light and water plant. Many miles of paved sidewalks and graveled streets and 22 passenger trains daily. Lafayette lies in the region of the two bayous, the Vermilion and the Teche, which is called the Attakapas country, after the Indian tribe that once inhabited it. The region was settled in 1755 by the descendants of the French colonists who were expelled from Nova Scotia by the English. A large element, other than French, has come within the last 30 years through the development of the railroads. Pop. 6,392.

LAFAYETTE, a fish. See Goody.

LAFAYETTE AT BARREN HILL. The first independent command of the Continentals entrusted by Washington to Lafayette as a major-general was with 2,100 of his best troops (out of 11,800 effectives trained by Steuben), with five pieces of artillery, to take a position on Barren Hill, 10 miles from Philadelphia. The object was to cut off British foraging parties and make reconnaissance to see if Howe was about to evacuate the city. The British got wind of the projected movement and a ship was kept waiting in the Delaware River for 10 days, the commander hoping to take Lafayette as a prisoner to England. On 8 May, a day of joy, news of the French Alliance was read in camp. On the 18th Lafayette sallied out and secured a strong position on Barren Hill. On the 19th, 5,000 British and Hessians marched by three roads to envelop the young Frenchman and his force, one detachment west of the Schuylkill expecting to cut off his retreat at Matson's Ford. The plan, skilfully conceived, seemed certain of success, when Lafayette, detecting the red uniforms, quickly occupied the strongest positions and sent out false heads of columns, which delayed the British advance until reinforced and able to deploy. The race was now for Matson's Ford. The enemy rallied by two roads to cut off the Americans, but the retreat was so skilfully conducted, Lafayette bringing up the rear, that, despite the heavy cannonade from the British batteries of field artillery and the swift charges of the Hessians, the young Frenchman, by his wisdom, coolness and promptness, saved the day. One incident illustrates this. A British round shot, hitting the axle, disabled one of the five cannon of the Continentals. To abandon a gun would mean grief both to Lafayette and to Washington. Ordering the artillerists to leap from their caissons and horses into the farm yard of John Harby, a farmer, Lafayette commandeered his wagon and had the gun quickly lashed by the breech to the hind axle. Then, whipping up the horses, the cannon was dragged seven miles over the rough road to Matson's Ford. In the skirmish at the river side the American rear-guard lost nine men. That of the British was reported as three, but the retreat was perfected and all the guns saved, together with the troops, to the joy of Washington and the confirming of his trust. A few days later the army started in pursuit of Howe. Consult Carrington, 'Battles of the American Revolution' (1888).

William Elliot Griffis.

LAFAYETTE COLLEGE, a Presbyterian college at Easton, Pa., founded in 1832. In 1916 it had 58 professors and instructors, 612 students, 41,292 volumes in the library, $643,000 in productive funds, grounds and buildings valued at over $1,500,000, income $126,000, number of graduates 3,078. It was originally chartered in 1826, but owing to the failure of the legislature to make any appropriation, the college was not opened until 1832. Since the Civil War the college has had a notable growth. The college curricula offers courses leading to the degree of bachelor of arts, bachelor of philosophy, bachelor of science, bachelor of science in chemistry, bachelor of science in civil engineering, chemical engineering, electrical engineering, mechanical engineering and mining engineering. There are now 42 buildings, including Pardee Hall, a memorial library, a memorial chapel, the Gayley Laboratory of Chemistry and Metallurgy and the Mechanical Engineering building.

LAFFAN, läf'ăn, **William Mackay,** American newspaper publisher and art connoisseur: b. Dublin, Ireland, 22 Jan. 1848; d. New York, 1909. He was educated at Trinity College, Dublin, and emigrated to America (1868) where he worked on the San Francisco *Chronicle* as reporter, and becoming city editor, then managing editor of the *Bulletin*. In 1870 he went over to the Baltimore *Daily Bulletin,* becoming owner and editor, in which capacity he made vigorous war on the political clique that was injuring the city. He became a member of the staff (1877) of the New York *Sun,* then (1881) art editor for Harper and Brothers, but was publisher of the New York *Sun* in 1884, establishing the *Evening Sun* in 1887. In 1900 he purchased the Charles A. Dana estate's interests in the *Sun,* and became president of the Sun Printing and Publishing Co. To overcome difficulties with the news-gathering associations he established the Laffan News Agency. He was a prominent connoisseur and collector of Chinese porcelains and wrote the introduction to the *Catalogue of Porcelains of the Morgan Collection* then at the Metropolitan Museum of Art (New York 1904).

LAFFITTE, Jacques, zhăk lă-fet, French banker: b. Bayonne, 24 Oct. 1767; d. Paris, 26 May 1844. He entered the banking house of the senator Perregaux, and in 1809 became the head of the firm, which he made one of the first houses in France. In the same year he was appointed director of the Bank of France, and in 1814 governor of the same establishment. When the credit of France, in 1815, was at a very dangerous crisis, Laffitte advanced 2,000,000 francs in ready money, by which means a necessary article in the capitulation of Paris was settled. He was elected to the Chamber of Deputies in 1816. In 1819 he was deprived of the presidency of the bank, which was bestowed on the Duke of Gaeta, yet he was in 1822 unanimously re-elected to the office of *régent de la banque* (director). Laffitte was again elected to the Chamber of Deputies in 1827, and took an active part in the Revolution of July 1830, being one of the deputies who signed

the protest, and declared themselves deputies of France, in spite of Polignac's order to annul the election. He founded a new credit bank in 1837, and was president of the Chamber of Deputies in 1843. He became bankrupt in his latter days, and was obliged to sell all his property to pay his debts, but his Paris hôtel was preserved to him by a national subscription.

LAFITAU, Joseph François, zhō-zĕg-frän-swä lä-fē-tō, French missionary and writer: b. Bordeaux, 1 Jan. 1681; d. there, 3 July 1746. He belonged to the Society of Jesus, and was for some years (1711–17) attached to their missions in Canada, and was afterward procurator of the Canadian missions. On his return to France he published 'Mémoire concernant la précieuse plante ging-sang de Tartarie' (1718), the plant here noticed, which was highly valued by the Chinese, having been found by Lafitau in the Canadian forests; 'Mœurs des sauvages Américans comparées aux mœurs des premiers temps' (1723); 'Histoire des Découvertes et des conquêtes des Portugais dans le nouveau monde' (1733).

LAFITTE, lä-fēt', **Jean,** American pirate and smuggler: b. France, 1780; d. Silan, Yucatan, 1826 (according to some authorities, at sea 1817). He was at one time a privateer in the employ of Cartagena for the destruction of British and Spanish commerce. Soon he turned to piracy, and by 1812 was leader of a band of desperadoes who maintained headquarters on the island of Grande Terre in Barataria Bay, and thence plundered traders in the Gulf. During the War of 1812, Commodore Percy, commanding the British naval force in the Gulf waters, unsuccessfully endeavored to obtain Lafitte's co-operation in the expedition against New Orleans. Lafitte later offered his services to the governor of Louisiana and General Jackson, on condition of full pardon for himself and followers. He assisted in the construction of the defenses of Barataria Bay, and in command of a detachment of his band participated most creditably in the battle of New Orleans (8 Jan. 1815). President Madison by proclamation confirmed the amnesty granted to the outlaws. Lafitte was a bold smuggler, and brought to Louisiana cargoes of negro slaves. He was associated with a brother, Pierre, with whom he is often confounded. He is the hero of J. H. Ingraham's story, 'Lafitte.'

LAFLAMME, lä-flame', **Toussaint Antoine Rodolphe,** Canadian jurist: b. Montreal, 15 May 1827; d. 1893. He was educated at Saint Sulpice College, in 1849 was admitted to the bar, became an editor of *L'Avenir,* and was a member of the "Rouge" or liberal reform element in Quebec province. At the same time he continued his legal practice, and was appointed professor of the law of real property in McGill University. In 1872–78 he sat in Parliament for Jacques Cartier County, in 1876 was Minister of Inland Revenue in the Mackenzie administration, and in 1877–78 Minister of Justice.

LAFONTAINE, lą'fŏn-tān', **August Heinrich Julius,** German novelist: b. Brunswick, 5 Oct. 1758; d. Halle, 20 April 1831. He studied theology (1777–80) at Helmstedt, became private instructor in several locations till 1789. He joined the Prussian army (1792) as field-chaplain and settled (1800) in Halle. He was made canon of Magdeburg Cathedral as reward for dedicating a work to Friedrich Wilhelm III and Queen Louise. He was a prolific but popular writer, being author of over 150 volumes. Sentiment and domestic life are his themes served up in the narrow lines of the period. Writing under the pseudonyms Gustav Freier, Miltenberg or Selchow, his best tales are 'Gemälde des menschlichen Herzen' (1792, and later, 15 vols.); 'Familiengeschichten' (12 vols., 1797–1804); 'Der Sonderling' (1793); 'Der Natur mensch' (1791). Consult Gruber, 'August Lafontaines Leben und Wirken' (Halle 1833).

LAFONTAINE, Henri, Belgian jurist: b. Brussels, 22 April 1854. He was appointed (1878) secretary of the Gesellschaft für Förderung der Mädchenarbeiter Schulen, and (1889) secretary of the Belgian Peace Society. In 1893 he became professor of international law, and was made (1895) senator, also director of the International Bibliographical Institute, and in 1907 was appointed secretary of the Union of International Associations. He was awarded (1913) the Nobel prize for his work in the advancement of international peace. He wrote 'Les droits et des obligations des entrepreneurs de travaux publics' (1885); 'Traité de la contrefaçon' (1888); 'Pasicrisie internationale' (1902); 'Bibliographie de la Paix et de l'Arbitrage' (1904).

LAFUENTE Y ZAMALLOA, lą'fwān'tā ē thä-mal-yō'ą, **Modesto,** Spanish historian: b. Ravanal de los Caballeros, 1 May 1806; d. 25 Oct. 1866. After receiving his education in philosophy and theology he was appointed professor of philosophy at the University of Astorga (1832), and two years later succeeded to the chair of theology there. Abandoning this some years afterward, he went to Madrid where he began writing political and theatrical criticisms for the newspapers, under the pen names of Fray Gerundio and Pelegrin Tirabeque. These essays were collected as 'Capilladas' (1837–40) and as 'Teatro social del siglo XIX' (1846). But his chief title to fame rests on his 'Historia general de España' (30 vols., 1850–67), a monumental work, later edited and revised by Juan Valera (25 vols., 1887–90). Other historical works by Lafuente include 'Viaje aërostático de Fray gerundio y Tirabeque' (1847), and 'Revista europea' (1848–49).

LAGARDE, lą'gärd', **Paul Anton,** German Orientalist: b. Berlin, 2 Nov. 1827; d. Göttingen, 22 Dec. 1891. He studied theology and Oriental languages at Berlin and became (1851) adjunct instructor of the Halle University, but continued (1852–53) his studies at London and Paris, returning to Halle to lecture. He taught at several schools of science, from 1866, at Berlin and Schleusingen and was made (1869) professor of Oriental languages at Göttingen University. The most important of his astonishingly numerous and many-sided philological works are 'Gesammelte Abhandlungen' (Leipzig 1866); 'Mitteilungen' (Göttingen 1884–91); 'Uebersicht über die im Aramäischen, Arabischen und Hebräischen übliche Bildung der Nomina' (ib. 1889); 'Semitica' (Göttingen 1878–79); 'Orientalia' (ib. 1879–80); 'Symmicta' (ib. 1877–80); 'Petri Hispani de lingua

Arabica libri' (Göttingen 1883); 'Ægyptiaca' (ib. 1875); 'Bibliothecæ Syriacæ' (ib. 1892); 'Armenische Studien' (ib. 1877); 'Persische Studien' (ib. 1884). He also wrote several poems which were published by Anna de Lagarde (Göttingen 1897). His great learning and gifts were curiously mixed with dogmatism and distrust in the activities of others. His 'Deutsche Schriften' (4th ed., Göttingen 1903) deals with the position of the German state to theology, the Church and religion. His library now belongs to the New York University. Consult Lagarde, Anna de, 'Paul de Lagarde, Errinnerungen aus seinem Leben' (Göttingen 1894).

LAGARTO. The Spanish word for "lizard." It was applied by the early Spanish explorers of Central America to the alligator, and their use of the word clung to the literature of the natural history of the New World for many years.

LAGERLOF, lą'gėr-lėf, (Ottilia Lovisa) Selma, Swedish author: b. Mårbacka, Vermland, 20 Nov. 1858. Her father was a Swedish army officer; her mother came of a family of artists and clergymen. She was educated at the Royal Women's Superior Training College, Stockholm. She became a teacher at the Girls' High School at Landskrona (1885–95), and during this time prepared her first book, 'Gösta Berling's Saga' (2 vols., 1891; Eng. trans., Boston 1898). Its refreshing breath of romance was a pleasant change from the pessimistic realism which had been the vogue and brought the author prompt and large success. A year's travel in Egypt, Palestine and Greece provided her with material for the second volume of her 'Jerusalem' (2 vols., 1901–02; Eng. trans., New York 1903), and also for portions of 'Christ Legends' (1904; Eng. trans., New York 1908). Out of travel and a study of conditions in Italy and especially in Sicily came the 'Miracles of Anti-Christ' (1897; Eng. trans., Boston 1899). Commissioned in 1902 by the National Teachers' Association of Sweden to write a school textbook which should present in story form the folklore, geographical peculiarities and flora and fauna of the various provinces of the country, Miss Lagerlöf accomplished her task with a success that added a children's classic to Swedish literature — 'Nils Holgersson's Wonderful Journey through Sweden' (2 vols., 1906–07), the English translation of which is entitled 'The Wonderful Adventures of Nils' (New York 1907). Honors followed Miss Lagerlöf's successes; in 1904 the Swedish Academy awarded her its great gold medal; in 1907 she received the degree of doctor of letters from Upsala University; in 1909 she was awarded the Nobel prize for literature, the only woman to have received this honor; and in 1914 the Swedish Academy elected her to membership — the first woman so honored. Her vogue in America is in part due to Mrs. Velma Swanton Howard, who early believed in her appeal to Americans and carefully translated many of her books. Her work includes also 'Invisible Links' (1894); 'From a Swedish Homestead' (1899; Eng. trans., New York 1901); 'The Girl from the Marsh' (1908; Eng. trans., Boston 1910); 'Further Adventures of Nils' (1911); 'Liljecrona's Home' (1911); 'The Legend of the Sacred Image' (1913; Eng. trans., New York 1914); 'Matilda Wrede' (1913; Eng. trans., New York 1914); 'Dunungen,' a comedy based on her work, 'Invisible Links' (1914); 'The Emperor of Portugalia' (1916; Eng. trans., New York 1916). See STORY OF GÖSTA BERLING, THE.

LAGO MAGGIORE, lä'gō mäd-jō'rē, or **LAKE OF LOCARNO** (anciently Verbanus), a large lake in northern Italy and Switzerland, extending from Sesto to Locarno, about 37 miles long and from 1½ to 3 miles broad. It is 636 feet above the level of the sea, and at the northern end in some places as deep as 1,220 feet. On the upper end it is enclosed by lofty and finely wooded mountains, and the east bank slopes gradually to the Lombard plain. There are several islands, two of which, Isola Bella and Isola Madre, called Borromean Islands, are laid out in gardens and pleasure grounds.

LAGONEGRO, lä-gō nä'grō, a small town 38 miles south of Potenza, Italy, noted as having been the scene of a great French victory in 1806.

LAGOON (from the Latin *lacuna,* a gap or hollow), shallow lakes or creeks connected with the sea, which are found along low-lying coasts. It is also applied to the expanse of water in the interior of those coral reefs which present to view above the surface of the water nothing but an external fringe. See CORAL.

LAGOS, lä'gŏs, town, at present the temporary capital of the British colony and protectorate of Nigeria. It is the most important seaport in upper Guinea, situated on an island of the same name. A bridge, 2,500 feet long, connects with Iddo Island. There is also direct rail connection with Kano, 717 miles distant. Its exports are rubber, cocoa, ground nuts, hides and skins, kerosene oil and mahogany. Pop. 60,000, of which about 500 are Europeans. Lagos, with its hinterland, were acquired from the native king in 1861, and have been successfully administered as an independent protectorate, part of the Gold Coast Colony, part of southern Nigeria, and are now incorporated in the colony and protectorate of Nigeria. See NIGERIA.

LAGOS, lä'gŏs, Mexico, city in the northeast of the state of Jalisco, on the Mexican Central Railroad. It lies 6,000 feet above the sea; was founded in 1563 by Francisco Martel, and after the war of independence was named Lagos de Moreno after its defender, Pedro Moreno, who died here in battle against the Spaniards in 1817. Pop. 12,243.

LAGOS, lą'gush, Portugal, a fortified city in the district Faro, province Algarve, beautifully located on the western shore of a bay on the Atlantic Ocean. It has several churches, an aqueduct, a great stone bridge spanning an arm of the sea. The harbor is sandy. Its industries consist of wine-growing, southern fruit culture, fisheries of tunny fish and sardines. This is the old Roman site of Lacobriga. Pop. 8,268.

LAGRANGE, Joseph Louis, zhō-zĕf loo-e lä-grąnzh, COMTE, French mathematician: b. Turin, 25 Jan. 1736; d. Paris, 10 April 1813. His great-grandfather was a cavalry officer in the French army, who afterward passed into the service of Sardinia. When scarcely 19 La-

grange was made mathematical professor in the artillery school at Turin. In 1764 he obtained the prize of the Academy of Sciences in Paris for a treatise on the libration of the moon, and in 1776 for another on the theory of the satellites of Jupiter. About this time he made a visit to Paris, where he became personally acquainted with D'Alembert, Clairaut, Condorcet and other savants. Soon after his return he received an invitation from Frederick the Great to go to Berlin, with the title of Director of the Academy. Here he lived for 20 years, and wrote his great work 'La Mécanique analytique.' After Frederick's death (1786) the persuasion of Mirabeau and the offer of a pension induced him to settle in Paris. He was the first professor of geometry in the Polytechnic School, and the first inscribed member of the Institute. He took no active part in the Revolution, and the law for the banishment of foreigners was not put in force against him. In 1794 he was appointed professor in the newly-established Normal School (École Normale Supérieure) at Paris (1794), as well as in the École Polytechnique. Napoleon bestowed upon him distinguished tokens of his favor, and he became member of the Senate, grand officer of the Legion of Honor and count of the empire. The most important of his works are his 'Mécanique analytique' (1788); 'Théorie des fonctions analytiques' (1797); 'Résolution des equations numériques' (1798); 'Leçons sur le Calcul des fonctions'; and 'Essai d'arithmetique politique.'

LAGUERRE, lą'gãr, **Edmond Nicolas,** French mathematician: b. Bar-le-Duc, 9 April 1834; d. there, 14 Aug. 1886. His abilities had been already acknowledged by the Lyceum when his article solving the mathematical problem of angular solution was published (1853) in *Nouvelles Annales de Mathématiques,* he entering the École Polytechnique the same year. In 1885 he was elected member of the Academy of Sciences to succeed Serret in the geometry section, and shortly afterward he was appointed to the chair of physical mathematics at the College of France. His algebraic system applied to curves and spherical measurements were a great advance in science. Most of his writings found publication in *Nouvelles Annales, Comptes Rendus* and *Bulletin de la Société Philomatiques.* Among those works published by him are 'Note-sur la resolution des équations numériques' (Paris 1880); 'Theorie des équations numériques' (Paris 1884); 'Recherches sur la géometrie de direction' (Paris 1885). Posthumous honors were accorded him in rewarding him with the Prix Petit d'Ormoy in 1887. Consult Poincaré, 'Notice sur Laguerre' (Paris 1887).

LAGUNA, lä-goo'nä, N. Mex., pueblo town on the Atchison, Topeka and Santa Fé Railroad, 60 miles from Albuquerque. The population, some 1,100, is composed largely of various branches of the Pueblo Indians of Keresan stock, who are industrious and self-supporting. The government granted them 17,000 acres, of which only 215 acres can be used for farming purposes, and they depend mainly on a fertile strip along the San José River. Some wool is raised. There is an old adobe Roman Catholic church here over 200 years old. Pop. 1,583.

LAGUNA, Philippines, a province of the island of Luzón, situated in the southern part of the island, on the south and east shores of the Bay Lagoon (q.v.); area, including dependent islands, 752 square miles. The province is mountainous in the centre and north, and in the southwest is Mount Maquiling, 3,666 feet high; there are a number of rivers; the soil is very fertile; the climate moist and variable. All varieties of tropical plants and trees found in the Philippines grow here; the staple products are sugar, rice, corn, cotton, tobacco, indigo, cocoanut, betel nut and fruit and vegetables. There are a number of industries, including mills for the extraction of cocoanut oil, furniture manufacture, the manufacture of cheese and stock raising; there is considerable export trade, products being sent to all parts of the archipelago. Civil government was established in the province in July 1902. The inhabitants are mostly Tagalogs. A railway runs along the south shore of the bay from Santa Cruz (the capital, q.v.) to Manila. Pop. 148,000.

LAHARPE, lą ärp,' **Jean François de,** French critic and author: b. Paris, 20 Nov. 1739; d. there, 11 Feb. 1803. He first brought out several voumes of 'Héroïdes' but first gained note by his tragedy 'Warwick' (1763), though his other tragedies met with no success. But his 'Éloges' on Henry IV, Fénelon, Racine, etc., show refinement and added to his fame, but his conceit and harsh criticisms made numerous bitter enemies, nearly losing him the election (20 June 1776) to the Academy. He gave lectures, as professor of literature at the newly founded Lycée (1786–98) with great success. His articles as critic for the *Mercure de France* brought applause, also those under the title 'Lycée ou Cours de littérature' (Paris 1799–1805). His participation in the Revolution brought him five months in jail in 1794, but he became an enemy of revolution later and an earnest worker for religion and monarchy. He supervised a selection of his works in six volumes (Paris 1778), and his 'Œuvres choisies et posthumes' appeared in four volumes. Consult Sainte-Beuve, 'Causeries du lundi' (5 vols., Paris, 1856); Edlich, 'Jean François de la Harpe als Kritiker der franzosischen Literatur im Zeitalter Ludwigs XIV' (Leipzig 1910); Teignot, 'Recherches sur La Harpe' (Dijon 1820).

LAHEE, Henry Charles, American writer on musical topics: b. London, England, 2 July 1856. He was educated at Saint Michael's College, Tenbury, Worcestershire, where he was chorister (1865–69), and was in the English mercantile marine (1871–79). Coming to the United States he was secretary of the New England Conservatory of Music at Boston (1891–99), and since the last-named date has conducted a musical agency in Boston. He has published 'Famous Singers of Yesterday and To-Day' (1898); 'Famous Violinists of Yesterday and To-day' (1899); 'Famous Pianists' (1900); 'Grand Opera in America' (1901); 'The Organ and its Masters' (1902); 'Grand Onera Singers of To-day' (1912), and contributions to musical and other magazines.

LAHN, län, Germany, a tributary of the Rhine having its source in the Rothaargebirge, Westphalia. Its length is 135 miles and is navigable from the mouth up to Giessen by the aid of locks. The valley, sometimes quite nar-

row, is rich in natural beauties and much visited by sight-seers. Ems is the principal town on the river's banks.

LAHORE, lä-hōr', India, second city and capital of the Punjab, on the left bank of the Ravi, 298 miles northwest of Delhi by rail. The native city covers an area of 640 acres, surrounded by a brick wall 30 feet high, flanked by bastions, and approached by 13 gates. The streets are extremely narrow, and the houses have in general a mean and gloomy appearance; but these only appear by contrast with the magnificent structures by which they are dominated. "On the northeast side especially the mosque of Aurangzeb, with its plain white marble domes and simple minarets, the mausoleum of Ranjit Singh, with its rounded roof and projecting balconies, and the desecrated façade of the Mogul palace, stand side by side in front of an open grassy plain, exhibiting a grand *coup d'œil.*" The citadel or fort stands on a slight but commanding eminence. The European quarter and the Mean Meer cantonment (three miles distant) lie to the south and east. Among modern buildings are the Punjab University, the Oriental College, Aichison Chief's College, Mayo Hospital, Victoria Jubilee Hall, school of art, Anglican cathedral, etc. It was at one time a great centre of the decorative arts — gold and silver ware, glass and enamel work — but most of these have gradually declined or vanished, and was famous for its superb cloths made of Bokhara thread. The North-West Railway workshops employ 5,000 men; the other industries include soap, acids, printing, leather, cotton and woolens, furniture, bricks and tiles: and the city is the centre of a rich agricultural district. A municipality was organized in 1867, a water supply was introduced in 1881 and a drainage system in 1883.

In 1524 Lahore became the seat of the Mogul Empire, under which it reached its greatest splendor. Before passing into the hands of the British it was the capital of the Sikhs. Pop. about 228,687 (60 per cent Mohammedan). Lahore division (commissionership) has an area of 17,154 square miles, and a population of 4,656,629. The Lahore district has an area of 3,704 square miles; pop. about 1,250,000.

LAHR, lär, Germany, town in the district of Offenburg, Baden, on the Schutter River, junction of the Dinglingen-Lahr State Railway and street railways. It has three Evangelical and one Catholic church, a monument to Bismarck and another to the poet Eichrodt. Among its other public buildings are a gymnasium high school, trade school, Imperial orphan asylum and several government edifices. Among its manufactures are ovens, pottery, snuff and cigars, roof-paper, toys, frames, chicory, leather, artificial flowers, also book-binding and lithographic work and wine culture are done on a large scale. The town has been in existence since 1278 and was the principal town under the Geroldseck government, later belonging to Nassau, and (1497) coming under the rule of Baden. Pop. 15,191.

LAIBACH, lī'bäh, Slovenian *Ljubljana,* capital of the Austrian Grand-duchy Carniola, located on the Laibach River, which is spanned here by seven bridges, and on the southern branch of the Vienna-Trieste and the Laibach-Oberlaibach, and other railways. It is embellished with large squares, and the monument to Radetzki von Fernkorn, and beautiful promenades. Among its more important edifices are the Saint Nicholas Cathedral (18th century) with its high cupola and frescoes; the Saint Jacob's, the Ursuline and Evangelical churches, the latter in Byzantine style; the government building, palace of justice, agricultural building, town-hall, bishop's palace, casino, etc. A monument was erected (1886) to Anastasius Grün. The industrial establishments include a cotton-goods factory, bell foundry, iron foundry, machine works, candy and chicory factories and manufactures of wire, paper, twine, stone and earthenware, leather, beer-brewery, electrical works, etc. Among her educational institutions are two Obergymnasia, a high school, teachers' institutes, a theological institute, trade school, commercial institute, students' library, museum and theatre. The museum contains interesting relics of a lacustrine village discovered in the Laibach fens. The Schlossberg towers high over the town and has a castle dating 1416–1520, partially destroyed (1813) by the French. The town is generally acknowledged to be the seat of the ancient Emona. In 1270 Ottokar of Bohemia captured the place, and it received municipal rights in 1416. After capitulation (1809) to the French it was occupied till 1813 as seat of the governor-general of the Illyrian provinces. The Congress of Monarchs met here to debate the situation of Italy which later brought about the overthrow of the liberal constitution of Naples, England being dissident. Consult Müllner, A., 'Emona' (Laibach 1879); Richter, 'Geschichte der Stadt Laibach bis 1461' (in Klun's 'Archiv für Geschichte Krains,' parts 2 and 3).

LAIDLER, Harry Wellington, American socialist author: b. Brooklyn, N. Y., 18 Feb. 1884. He was educated at Wesleyan University A.B. (1907) and received the degree of LL.B. at Brooklyn Law School (1910), and of Ph.D., Columbia (1914). He was member of the reportorial staff of the *Brooklyn Eagle* (1907–10), a founder of the Intercollegiate Socialist Society (1905) and its secretary from 1910, an association on similar lines as the English Fabian Society. He was editor of the *Intercollegiate Socialist* from 1913. He studied the labor question and social movements in Europe and here and has delivered numerous lectures on these subjects. He wrote 'Boycotts and the Labor Struggle' (1914), and a pamphlet entitled 'The British Coöperative Movement' (1917).

LAING, läng, **Alexander Gordon,** British African explorer: b. Edinburgh, Scotland, 27 Dec. 1793; d. near Timbuctoo, Africa, 26 Sept. 1826. After serving for several years in the English army, he entered on his career as an African traveler in 1822. In that year he visited Falaba, the capital of the Sulima country, got to within three days' journey of the supposed source of the Niger, but had perforce to return. An opportunity having presented itself of proceeding on the discovery of the course of the Niger, it was arranged that he should accompany the caravan from Tripoli to Timbuctoo. He left Tripoli in July 1825 in com-

pany with the Sheik Babani, and after a tedious journey of nearly 1,000 miles arrived at Ghadames; and on 3 December reached Ensala. He quitted Ensala on 10 Jan. 1826 and on the 26th entered on the sandy desert of Tenezaroff. After some fighting with the Tuaregs he arrived at Timbuctoo on 18 August, the first European who had ever reached that city. After a short stay he set out on his return, but was assassinated on 26 Sept. 1826. The murder was committed by the order of the son of the Prime Minister of Tripoli, whose agent, Babani was. Laing's journals, which he had prepared for the press, were published in 1825 under the title, 'Travels in the Timmannee, Kooranko and Soolima, Countries of Western Africa.'

LAING, Gordon Jennings, American classical scholar: b. London, Ontario, 16 Oct. 1869. He was graduated (1891) at the University of Toronto, took the degree Ph.D. at Johns Hopkins (1896), then studied for a year at the American School of Classical Studies, at Rome. He was instructor of classics at Whetham College, Vancouver, British Columbia (1892–93); lectured on Greek and Latin (1893) at Toronto University, and on Latin literature (1897–99) at Bryn Mawr College. He was made professor at the University of Chicago (1913) and was appointed managing editor of the *Classical Journal* (1905–08), associate editor *Classical Philology,* from 1905; general editor of the *University of Chicago Press* since 1908. He was vice-president of the Archæological Institute of America from 1913. He edited 'Masterpieces of Latin Literature' (1903); 'Selections from Ovid' (1905); 'Phormio of Terence' (1908).

LAING, Malcolm, Scottish historian: b. near Kirkwall, Orkney, 1762; d. there, 6 Nov. 1818. He was a lawyer by profession and later a member of Parliament, but devoted himself principally to historical investigation. He completed the last volume of Henry's 'History of Great Britain' (1785) and was the author of a 'History of Scotland' (1800), which may be regarded as supplementary to Robertson's history and is a monument of painstaking research. In the preliminary dissertation he presents an elaborate argument to prove Queen Mary's participation in the murder of Darnley. He published in 1805 an edition of Ossian.

LAING, Samuel, Scottish author: b. Kirkwall, Orkney, 4 Oct. 1780; d. Edinburgh, 23 April 1868. Entering the army in 1805 he served in the Peninsular War and in 1834 traveled in the Scandinavian countries. He published 'Journal of a Residence in Norway 1834–36' (1836); and 'A Tour in Sweden' (1839); 'Notes of a Traveller' (1842); but is best known by his important translation of the 'Heimskringla or Icelandic Chronicle of the Kings of Norway, with a Preliminary Dissertation' (1844).

LAING, Samuel, English railway administrator, politician and author: b. Edinburgh, 12 Dec. 1812; d. Sydenham Hills, Kent, 6 Aug. 1897. He is the son of Samuel Laing (1780–1868). He was prominently identified with railway legislation in England, the inception of "parliamentary" passenger trains with a fare of one penny a mile being due to his suggestion, and he was chairman of the Brighton and South Coast Railway. He was for many years prominent in Parliament and from 1860 to 1863 held the office of Finance Minister in India. In his old age he took to writing books, mainly philosophical. Of his works, 'Modern Science and Modern Thought' (1885), and 'A Modern Zoroastrian' (1887), have occasioned some discussion. His other publications of a miscellaneous character include 'India and China' (1863); 'A Sporting Quixote; or the Life and Adventures of the Hon. Augustus Fitzmuddle' (1886); 'The Antiquity of Man' (1890); 'Human Origins' (1892).

LAIRD, lārd, **David,** Canadian politician: b. New Glasgow, Prince Edward's Island, 1833; d. Ottawa, 12 Jan. 1914. He was educated at Truro, Nova Scotia, and subsequently established and edited the *Patriot* in Charlottetown. In 1871 he became a member of the assembly of Prince Edward Island and after the admission of the province to the Dominion was a member of the House of Commons and Minister of the Interior, 1873–76. He was lieutenant-governor of the Northwest Territory, 1876–81. In 1877 and 1899 he was a commissioner in the arranging of treaties which extinguished by purchase the Indian title to great tracts in the Qu'Appelle and Peace River districts.

LAIRD, John, English shipbuilder: b. Greenock, Scotland, 14 June 1805; d. Birkenhead, Cheshire, England, 29 Oct. 1874. His shipyards were at Birkenhead, on the other side of the Mersey from Liverpool, and he was for a long time the head of the firm of John Laird and Sons. He was the first builder of iron steamships and built the *John Randolph,* the *Nemesis* and the *Alabama.* The first was the earliest iron vessel that was ever seen in America and was sent out to Savannah in pieces; the second, the first armed vessel of iron. The history of the *Alabama* is well known. He entered Parliament for Birkenhead in 1861 when he retired from active business.

LAIRESSE, lā'rĕs', **Gerard de,** Dutch painter and etcher: b. Liège, Belgium, 1640; d. Amsterdam, 11 June 1711. He was early a pupil of his father, Regnier Lairesse, and of Flemalles, and left them for Utrecht, and afterward Amsterdam, where he labored hard for perfection in his art. He first of all confined himself to models of the antique and the classical ideals of Poussin. His work was thus distinguished by somewhat wearisome mannerism and his pictures very frequently seem painted in an unnatural silvery, metallic tone. His masterpieces are to be seen in Amsterdam, Schleissheim, Cassel and in the Louvre, Paris. His ideas on art, as dictated to his pupils and associates, together with his etchings, were published after his death in two volumes, under the title 'Het Groot Schilderboek' (1712). The work has been translated into German, French and English and has had a great influence in the art education of the 18th century.

LAIS, lā'ĭs, the name of two Greek hetæræ, celebrated for their remarkable beauty. The first lived at Corinth at the time of the Péloponnesian War; the most eminent and wealthy men of the time, including Aristippus, the Cyrenaic philosopher, and Diogenes, the cynic, fell under her spell. The younger Lais was the daughter of Timandra and was born

at Hyccara, Sicily, 422 B.C. She came to Corinth in her seventh year, and was educated in her profession by the painter Apelles. Later in life she followed a certain Hippostratus to Thessaly, where she was stoned to death by women in the temple of Aphrodite. But it is impossible to sift the really historic from mere anecdotal tradition in the accounts of these women which have come down to us. Consult Jacobs, 'Lais, die ältere und die jüngere' (1830); Wieland, 'Aristipp.'

LAISSEZ-FAIRE, lā'sā fār'. A slogan of great potency in the political and economic discussions of the 18th century, particularly in France. It made a strong appeal to the jurists and to the philosophers of an age engrossed with the idea of a "natural law," which was higher than the edicts of kings and parliaments and was the only right rule of human conduct. The French lawyers from the earliest times showed a predilection for the *droit naturel* in their theoretical disquisitions; but in practice, strangely enough, they strenuously adhered to the medley of provincial *coutumes*, Roman jurisprudence and royal proscriptions, which constituted the laws of their country. It was the Marquis d'Arguesau who first injected the natural law into the domain of legislative polemics and made the phrase "laissez-faire" a postulate for political argument. "Laissez-faire," he declared, as early as 1735, should be the fundamental rule of government and should be adopted as its watchword by every public authority. "To govern better," he said, "it is necessary to govern less," a pronouncement which was to become the palladium of liberty with the Jeffersonian school of politics in America, and with individualists everywhere for a century and a half to come. But d'Arguesau, probably, got his catchword from Colbert, who records the fact that in 1680 a merchant, Legendre by name, on being asked what was required for the advancement of commerce and industry, replied: "Laissez-faire" — leave them alone. What was meant was that the production and exchange of commodities should be relieved of the restrictive regulations and taxes with which they were burdened. Not only was international commerce hampered by export and import duties, of which few persons of those times would have thought to make complaint, but domestic trade was impeded by equally great, if not greater, obstacles. Every road was barred by gates at which toll had to be paid to the king or provincial seigneur and every commune exacted octroi and other charges on everything that was brought in from other communes or the surrounding country. License fees were exacted from every calling and many industries were monopolized for the revenue they yielded to the state.

These were the conditions against which the "Physiocrats" — the elder Mirabeau, Mercier de la Riviere, Turgot and, above all, François Quesnay launched their protest. Quesnay, a philosopher and surgeon of note, and physician to Madame Pompadour, made the phrase "laissez-faire" the groundwork of his system of economics. He contributed a number of articles to the 'Encyclopedie' of Diderot, wherein his theory of free trade was fully developed. The free exercise of his faculties, he declared, is every man's natural right as long as in the exercise of this right the similar rights of all other men are respected by him. Starting with this as a postulate, Quensnay deduced as a corollary, the right of every man to the undisturbed enjoyment of the fruits of his handiwork or intellectual activity. The free enjoyment thereof included the right to freely dispose of or exchange the commodities and other things of value thus produced. Any tax or other regulation imposed by public authority, which hinder such production, enjoyment or exchange, are invasions of natural right. The proper functions of government are, the protection of life and property and the administration of justice, and the assumption of greater or other powers is supererogation. "Laissez faire, laissez passer," let men make things and let the products pass. This is natural law in an economic dress. As a by-product of his theorizing Quesnay evolved the *impot unique*, or single tax. Agriculture, he declared, stands apart from other industries in that it alone yields a *net*. All other industries involve merely a change of materials in form and position; he, therefore, calls them "barren." But agriculture produces a "surplus value." The productiveness of agricultural land varies; but the rental value automatically fixes the relative capacity of any given piece of land to yield a *net* or surplus. Let taxation, therefore, be limited to ground rent. Incidentally this would prevent the friction which is caused by the shifting of taxation; a tax in the form of rent could not be shifted. The *impot unique*, of course, implied the abolition of customs duties, transit dues and all other taxes on industry and commerce. Adam Smith made the law of supply and demand, operating without restriction in a free market, the basis of his economic system. Jeremy Bentham adopted the reasoning of Quesnay with respect to the functions of the state, saying that political economy requires nothing from the latter but the security of industry from governmental interference. In other respects Bentham was not in sympathy with the theory of "natural law." Indeed his pronouncements, that the state is the source of all law and that legislation should have regard for "the greatest good of the greatest number," are, in the main, negations of the doctrine of "laissez-faire." The phrase, however, obtained currency in England, and more (one-sided) honor there than in the land of its origin. "Laissez-faire" became the shibboleth of the free traders of the Manchester school, and of the orthodox political economy everywhere. Carlyle launched his invectives against the "dismal science" in vain. "Supply and demand and the devil take the hindmost" was his energetic translation of the phrase into English. But the policy of "hands-off" or "laissez-faire" remained a fixed principle in English legislation until quite recent times, particularly with respect to the taxation of the rental value of, or potential surplus product from, land. Public opinion, and scientific opinion as well, has undergone a complete change. The extreme individualism, which supplied most of the axioms of politics and law down to the last quarter of the 19th century, and a long way into that period in some countries, has given way nearly everywhere.

Aidful, protective and regulative intervention in industrial affairs is being more and more completely recognized as a legitimate governmental function. The greatest good to the greatest number, rather than "natural right" and the greatest possible liberty of the individual, has become the active principle of modern legislation, and "laissez-faire" has been swept into the political dustbin.

STEPHEN PFEIL.

LAITY (Gr. λαὸ the people). Those members of the church who are not included in the clergy. In the Roman Catholic Church the clergy are divided into eight orders: bishop, priest, deacon, sub-deacon, acolyte, exorcist, ostiarius, lector. By some authorities the episcopate and the priesthood are considered different degrees of the same order, and the lowest of the eight orders is said to belong to all who aspire to the priesthood, postulants or candidates, who are styled clerics. The Protestant Episcopal Church holds, as the prayer-book says, "that from the Apostles' time there have been three orders of ministers in Christ's Church, Bishops, Priests and Deacons." This does not deny the historic existence of other orders, and may be thought simply to interpret the sentence with which the pastoral letter of the first council of Jerusalem opens (Acts xv, 23): "The Apostles and Presbyters and brethren send greeting," the brethren being the laity. In secular life, the term is also used to distinguish outsiders from the members of the learned professions. See CLERGY.

LAJARD, lą'zhär, Jean Baptiste Félix, French archæologist: b. Lyons, 30 March 1783; d. Tours, Sept. 1858. He was attached to the Persion mission as secretary under General Gardan, and there collected the valuable series of ancient Babylonian cylinders which are a part of the cabinet in the Bibliothèque nationale. His researches led him to the view of the close connection of the Greek civilization with the Orient and thereby explained numerous facts concerning the origin of the Hellenic religions. After serving successfully in various capacities in diplomacy in Greece, Russia and Denmark this work ended with the fall of the empire. Under the Restoration he was made receiver of finances. In 1830 he was elected member of the Académie des Inscriptions et Belles-Lettres. Among his numerous works must be mentioned 'Recherches sur le Culte, les symboles, les attributs et les monuments, figurés de Vénus en Orient et en Occident' (1837–47); 'Recherches sur le Culte public et les Mystères de Mithra en Orient et en Occident' (Paris 1847–48), a work which was crowned by the Académie des Inscriptions et Belles-Lettres. His treatises on archæological subjects are very numerous, and he edited the works of Saint Martin and of Abel Rémusat.

LAKANAL, lą'ką'nąl', Joseph, French statesman: b. Serres, 14 July 1762; d. Paris, 14 Feb. 1845. He was educated by the Doctrinaires, joined their congregation and became a teacher, then professor in philosophy at Moulins. In 1791 his uncle Font made him vicar-général at Ariège, and he was sent to the National Convention (1792) as deputy for his department. There he voted for the unconditional death of Louis XVI. He soon rose to the presidency of the committee of public instruction; he had the Jardin du Roi reorganized and called the Museum of Natural History. He took a prominent part in the creation of the École Normale, Institute, central schools, primary schools and in adopting ærial telegraphy. He was appointed commissary by the Directory (1795) to assist in several newly-annexed French departments. In the same year he presented a plan for the establishment and organization of central schools, and he also entered the Council of 500, but on the 18 Brumaire, he resigned all positions except the chair of the Central School. In 1816 he was banished as a regicide and his name was erased from the list of the Institute he had founded. Emigrating to the United States he became president of University of Louisiana and then an Alabama planter. On the re-establishment of the Académie des Sciences Morales et Politiques (1832) he returned to France to claim his original post, which was given to him in 1834. Consult Saint-Hilaire, G., 'Lakanal, sa vie et ses travaux' (1849); Lavigne, B., 'Joseph Lakanal' (1880).

LAKE (Lat. *lacus*), a standing body of water surrounded by land. Lakes are of two kinds — fresh-water and saline — and have been formed in various ways. Taking first the *fresh-water lakes,* these may be grouped as follows: (1) *Obstruction Lakes.*— Some of these are more or less temporary sheets of water, such as the lake-like expansions of certain rivers, and the deserted loops of river-channels. Other temporary lakes are due to the operations of the beaver; to the choking of the narrower passages of a river-channel by drifted vegetable débris or river-ice; to the advance of a glacier across the mouth of a lateral valley, to the damming of valleys by lava flows or to obstructions by landslides. (2) *Crater Lakes.*— These occupy the craters of extinct or quiescent volcanoes. (3) *Sink Lakes.*— These lie in hollows caused by subsidence of the surface consequent upon the removal of underlying soluble rocks, such as rock-salt and calcareous and gypseous rocks. (4) *Earth-movement Lakes.*— Unequal movements or warping of the earth's crust have occasionally originated hollows by direct subsidence. It is possible also that local elevation by affecting the lower ends of valleys may sometimes have obstructed the flow of rivers and thus given rise to lakes. (5) *Glacial Lakes.*— These consist of (*a*) hollows of erosion or *rock-basins,* which have been excavated by glacier-ice, and (*b*) hollows caused by the unequal distribution or accumulation of glacial detritus during the glacial period. (6) *Subterranean Lakes.*— These are found chiefly in calcareous regions, where they occupy the underground channels which have been excavated by the chemical and mechanical action of water. *Fresh-water lakes* are very unequally distributed. They are most numerous in those regions which were overflowed by land-ice during the glacial period, as in the British Islands, Scandinavia, Finland, Canada and the United States. Lakes occur at all heights above the sea; the most elevated being Lake Tsana in Abyssinia (7,500 feet), Lake Titicaca in the Bolivian Andes (12,500 feet) and Askal Chin in Tibet (16,600 feet). The largest lake in the world is

Lake Superior, which covers an area of 31,200 square miles, and has a mean depth of about 475 feet. Lake Baikal, in central Asia, is the largest and deepest mountain lake, its area being 11,580 square miles, and in places reaches a depth of 5,400 feet. Some of the mountain lakes of Europe also attain great depths; thus, Lake Geneva is 1,000 feet, Lago Maggiore 1,158 feet and Como 1,358 feet.

Salt Lakes.— Two kinds are recognized: (*a*) portions of the sea cut off from the general oceanic area by epigene or hypogene agencies; (*b*) lakes, originally fresh-water, which have been rendered saline by evaporation and concentration. Those of the first group range in size from mere pools and lagoons up to inland seas, such as those of the great Aralo-Caspian depression. The Dead Sea and the Great Salt Lake of Utah are good examples of the second group of saline lakes, which might be defined shortly as lakes which have no outlet to the ocean. The Caspian Sea is 97 feet below the level of the Black Sea, has an area of about 170,000 square miles and is from 2,500 to 3,000 feet deep in the deepest parts. A still more depressed area is that of the Dead Sea, the surface of which is 1,292 feet below the level of the Mediterranean Sea.

In Scotland the term loch is applied to lakes or lake-like extensions of the sea completely shut in by land.

LAKE. Pigments consisting of coloring matter combined with a metallic oxide are called *lakes*. They are obtained by mixing with the solution of the coloring matter a solution of alum or of a salt of tin, tungsten, zinc or other metal and then adding an alkali or alkaline carbonate. The precipitate which forms consists of the color combined with the oxide. Among the pigments prepared in this way may be mentioned *blue* lake, consisting of cobalt blue, indigo or ultramarine and alumina; *madder* lake, of madder and alumina; *orange* lake, of turmeric and alumina; *carmine* lake, of cochineal and alumina, which is the finest and most important of all; *purple* lake, of logwood and alumina, and so on. The exact tint depends on the proportions of the ingredients and the mode of preparation, as the lakes do not appear to be definite compounds. Lake pigments are largely used not only in painting, but also in calico-printing, but in the latter the metallic oxide is put upon the cloth and the color is afterward applied.

LAKE AGASSIZ, ăg'ą-sĭ, name given by N. H. Winchell to a large body of water which in the Glacial Epoch covered the Red River Valley in Manitoba, Saskatchewan, northeastern North Dakota and western Minnesota. Its shrunken remnants are lakes Winnipeg, Manitoba, Winnipegosis, Rainy Lake, Lake of the Woods and Red Lake. Its area was about 110,000 square miles, its length nearly 700 miles, its width 250 miles and its greatest depth 700 feet more than the depth of its remnants. Its existence was due to the ice sheet of the Glacial Epoch which at one stage of recession dammed the northern outlet through Nelson River; at the time the outlet of the lake was to the south by a transient stream called river Warren. The sheet of silt that accumulated in the bed of this lake now constitutes the soil of a great level plain noted for its luxuriant crops of hard wheat. For description consult Warren Upham, Monograph 25, United States Geological Survey.

LAKE BONNEVILLE, bon'vĭl. See GREAT SALT LAKE.

LAKE BOUNDARIES. See BOUNDARIES OF THE UNITED STATES.

LAKE CARP, a fish, *Carpiodes Thompsoni*, one of the carp-suckers (q.v.), inhabiting the Great Lakes.

LAKE CHARLES, La., city, seat of Calcasieu Parish, situated on the shores of Lake Charles and Calcasieu River, on the main Southern Pacific line, 219 miles from New Orleans and 160 miles from Houston, Tex.; terminus Saint Louis, Iron Mountain and Southern Railway and Kansas City Southern Railway; on Ocean to Ocean Highway, deep water through Intercoastal Canal via Port Arthur west, and New Orleans on the west. One of the most picturesque cities of the State. Its principal buildings are the courthouse, city hall, four graded schools, high school, four colored schools, 17 churches, Carnegie library, Federal building and courthouse, sanitarium, orphanage and convent. Its industrial establishments comprise light and power plant, ice factory, gas plant, oil refinery, shipbuilding plant, chemical plant, rice mills, saw mills, etc. Its agricultural interests comprise rice, corn, cotton, oranges, grape fruit, strawberries, pecans and all garden truck with 300 farming days to the year. In the heart of the Calcasieu long leaf yellow pine timber district and chief centre of the lumber manufacturing interests of the State, it lies 10 miles east of the greatest sulphur producing mines in the world and 15 miles east of the Vinton and Edgerly oil fields. From this centre of Calcasieu Parish radiates a 200-mile ($2,000,000) system of hard surfaced highways; the Calcasieu River bridge, concrete and steel, 1,782 feet in length, was completed in 1918. The city was settled 1852, incorporated 1857, chartered 1886 and adopted commission form of government 1913. Pop. 20,000.

LAKE CITY, Fla., town and county-seat of Columbia County, on the Seaboard Air Line and other railroads, 60 miles west of Jacksonville. Here until 1905 was located the State Agricultural College. There is an agricultural experiment station. In 1901 the State legislature granted the town a new charter greatly enlarging its limits. It is the seat of Columbia College (Baptist) and is located in a thriving cotton region. Cattle-raising and truck farming are also important industries. The town has an important trade in cotton, lumber, turpentine, fruit, etc. The waterworks and electric-lighting plants are municipally owned. Pop. 3,422.

LAKE CITY, Minn., city in Wabasha County, on the expansion of the Mississippi River known as Lake Pepin, and on the Chicago, Milwaukee and Saint Paul Railroad, 57 miles southeast of Saint Paul. It has a public library and high school and numerous manufactures, including grain elevators, flour mills, cut-glass works, pearl-button, boat, wagon and carriage factories, foundries, machine shops and an extensive nursery covering 1,400 acres. The city is a popular summer resort. The city has adopted the commission form of govern-

ment, and owns the waterworks and electric-light plant. Pop. 3,142.

LAKE DWELLINGS, dwelling-houses of men built on piles in the water near the shore of a lake. They may be considered in two categories: (1) The prehistoric structures of Switzerland and the neighboring region; and (2) more modern structures elsewhere.

Swiss Lake Dwellings.— Villages constructed by men of the Neolithic and subsequent ages of culture (see STONE AGE) in the water of the lakes of northwestern Switzerland, and in adjoining parts of France and Italy. They do not represent an epoch in itself, but only incidents of situation with reference to the social conditions of their time. The region was one of difficult mountains, and doubtless these were infested by roaming bands of savage or lawless men, putting in constant danger the lives and property of any settler desiring peace and comfort. It may well be supposed that the desire for safety was the ruling motive in constructing homes surrounded by water, where by the lifting or destruction of a bridge or causeway, or the withdrawal of boats, a village might rest in security against bandits who would not have the means of immediately attacking by water, and could not, or would not, wait to carry on a prolonged siege. Some dwellings of the same kind, however, were placed on the shore, and these would probably be abandoned at the coming of raiders. On the whole it may be concluded that these water-guarded communities represent the most advanced effort of the time to obtain a settled social state and foster industry. Nothing more is known of these villages than may be gathered from a study of their remains. They are found in all the larger lakes as well as in some small ones — perhaps 300 sites in Switzerland and many others in Italy. The first discovery was in Lake Zürich in 1854, when a season of extremely low water disclosed groups of stumps of piles at a little distance from the shore; and dredging recovered hundreds of implements of stone, bone and deer-horn, that had been lying in the mud for thousands of years. Subsequent exploration of the submerged margins of other Swiss lakes showed many more town sites, and exhumed a vast quantity of relics, in some cases only those of the Stone Age, in others metallic implements denoting occupation in the age of bronze, while a very few sites showed an intermediate condition of culture. The custom of making these lacustrine villages continued, therefore, from the time of the Neolithic people — probably from their first advent — on through the Bronze Age and into the more modern time when iron had come into use. It is surprising that it should not have been found in existence by the Greek and Roman pioneers to this region, but no written record or even tradition indicates survival to historic times. The occupation of these villages, however, was far from continuous. At Robenhausen, on the ancient Lake Pfäffikon, now a dry marsh, three Neolithic occupations appear, one on top of the other, and each was destroyed before the next began. The tops of each set of piles are from three to five feet higher than the earlier set. The number of houses in the first occupation has never been estimated; that of the second has been estimated at 30, and the third and last at 50 houses. The settlement covered nearly three acres and contained about 100,000 piles. At Morges, on Lake Geneva, again, three different stations close together evidently belong to different times. One has yielded no metal; the second a mixture of stone and the straight, flat, bronze hatchets characteristic of the beginning of the bronze period; the third only the finest of advanced bronze-work. "Here," as T. W. Wilson remarks, "there could have been no contemporaneity — no mixture. Each must have been destroyed before the other began." It is probable that these successive occupations represent as many catastrophes, most likely overwhelming conquests in which the places were sacked and swept away by fire. Evidence of conflagration is frequently noticed. In such a case decay and ice would gradually dispose of the piles near the surface of the water, but where it was deep, or the timbers were sunk in mud, they would be preserved. A complete dugout canoe has been found in one place. Burned towns might frequently have been rebuilt, but finally all were abandoned, and new towns arose near by in subsequent centuries, built by new folks. Some of the more recent villages were of comparatively great size. That at Morges was 1,200 feet long by 150 broad, and is estimated to have housed 1,200 inhabitants. Much study has been given to the plan and construction of these lacustrine habitations. Although in some of the little lakes foundations of bundles of withes, or of heaps of stones, were made, as in building crannogs, most villages rested on thousands of piles. The labor involved must have been prodigious, especially in the Stone Age, when trees had to be felled and cleared of limbs, and piles sharpened, with only stone hatchets and fire for tools. The necessary number of piles having been driven into the lake-bottom, their tops were cut to a general level and then floored over with planking or slabs, on which the buildings were erected. A narrow bridge, perhaps with a draw, connected the platform with the shore. What the houses and other superstructures were like is a matter of doubt. They must have been fairly substantial and tight to withstand the winter cold and mountain gales; and no doubt contained fireplaces of stones and clay for warmth and cooking purposes. It is probable that they were usually formed of reeds or slender poles covering the frame, and coated with clay, forming "wattle-and-daub" huts, as fragments of such clay walls, hardened by fire, have been found in abundance.

Other Lake-Dwellers.— Antiquarians and travelers have described similar dwellings, and even villages still in use in various parts of the world. Herodotus, who visited Thrace early in the 5th century, B.C., saw the natives about Lake Prasias living in a lacustrine village precisely like those of ancient Switzerland; modern Rumelian fishermen around Lake Prasias still build and inhabit similar dwellings. The same custom is followed by tribes dwelling on marshes, lake-borders or river-courses in central Africa, the East Indies and Malaya, Australasia and in tropical America. The motives nowadays are not always, if ever, fear of enemies, but rather convenience, since such folks are usually dependent on boats for travel, or are engaged in fisheries of some sort, or find it needful to sleep above the wet jungle-soil,

and out of the way of dangerous animals and annoying vermin. One of the most prominent examples is that which led European explorers to give the name Venezuela ("Little Venice") to the northern coast of South America. Around Lake Maracaibo the Indians dwelt in the rainy season in flimsy shelters perched on piles driven in the water, the shorter ones carrying the sills and floor, and the longer ones the roof-poles. They made platforms for storing property, and little islands as refuges for their meagre livestock. But there is a well-known example nearer home. The Irish, and to a less extent the Scotch and English of old times, had lake dwellings that were made in the following way and were styled *crannogs*.

Crannogs.— Great quantities of small stems, sticks and the like are collected and sunk by means of stones in the lake, so as to form an island. Very often advantage is taken of the existence of an island just level with the surface of the water, which can be raised a foot or two above the surface with comparatively little labor. Sometimes a few upright piles are driven in on the top after the chief part of the island has been made in the manner described. When the island is thus raised to a sufficient height it is frequently strengthened by an enclosure of stakes driven into the bottom of the lake perpendicularly. A platform of thin stems of trees, either round or split into boards, is then made on top of the island, and this supports the structures that are built on them. The crannogs of Ireland appear to have been rather used as strongholds than as dwellings. Consult Keller, 'Lake Dwellings of Switzerland and Other Parts of Europe' (1878); Wood, Martin, 'Lake Dwellings of Ireland' (1886); Munro, R., 'Ancient Scottish Lake Dwellings' (1882); 'Lake Dwellings of Europe' (1890), and general works on archæology.

ERNEST INGERSOLL.

LAKE FOREST, Ill., city in Lake County, on Lake Michigan, and on the Chicago and Northwestern Railroad, 28 miles north of Chicago. It is a suburban and residential town without industries or manufactories. There is here a seminary for girls, a public library, an academy for boys and Lake Forest University (q.v.). It was settled in 1859, and is governed by a mayor and council elected every two years. Pop. 3,349.

LAKE FOREST UNIVERSITY, at Lake Forest, Ill., is an educational corporation, operating four institutions: Lake Forest College, opened in 1876, offering courses in liberal arts and sciences for both men and women; Lake Forest Academy, a boys' preparatory school, opened in 1858; Ferry Hall, opened in 1869, a girls' preparatory school and junior college, named for the Rev. W. W. Ferry, who left a bequest of $35,000 for such a school, and the Lake Forest School of Music opening in 1916, incorporating and extending the courses in music hitherto given in other departments. A summer school of landscape architecture was instituted in 1916. The charter was procured in 1857 by a group of prominent citizens of Chicago under the leadership of the Rev. W. W. Patterson, D.D., who formed the Lake Forest Association in 1856 and purchased 1,300 acres of land on the high wooded shore of Lake Michigan, 28 miles north of Chicago. Here the town of Lake Forest was plotted in 1857, every alternate lot being assigned to the university, 62 acres being set aside as a campus. The original title of the institution was Lind University, but this was changed in 1865 to Lake Forest University. The college, the academy and Ferry Hall have separate grounds and buildings and independent faculties. They are all provided with a complete equipment of dormitories and commons, as well as a modern educational plant. The faculties number 55 and there are 490 students enrolled. The libraries contain 43,000 volumes. The total value of the grounds and buildings is $1,040,000; the endowment amounts to $1,200,000, including the special Bross Fund of $40,000, the income of which is used for lectures similar to the Bampton and Gifford Lectures, and for a decennial prize in the field of Christian apologetics.

LAKE OF THE FOUR FOREST CANTONS, Switzerland, a common name for the Lake of Lucerne. The city of Lucerne and the towns of Küsnacht, Brunnen and Flüelen are on its shores.

LAKE GENEVA, jĕ-nē'vą, Wis., city in Walworth County, on the Chicago and Northwestern Railroad, 70 miles northwest of Chicago. Situated on Lake Geneva, the city has developed into a popular summer resort. The lake is nine miles long and from one to three miles in width, and is fed entirely by springs. The Yerkes Observatory, belonging to the University of Chicago, is located here. There are numerous large hotels, churches, schools, a public library, the Oakwood and Lakeside sanitariums and other buildings. It has a condensed milk factory, cement-stone and brick works, and a creamery. The city was incorporated in 1893 and is governed by a mayor and council elected annually. The waterworks are the property of the city. Pop. 3,079.

LAKE GEORGE, in the eastern part of the State of New York, is one of the most beautiful, noted and picturesque lakes in the world. It is fed mostly by ice cold springs, there being less than half a dozen living streams flowing into it. Its outlet is Lake Champlain in the Saint Lawrence River Basin. It is the headwaters of one of the most noted of the Saint Lawrence valleys. It narrows at its outlet and the waters enter Lake Champlain by a short creek, which has a descent of about 230 feet in a mile with a series of cascades and an abrupt fall of 30 feet at Ticonderoga. Its length is about 36 miles, and it is 346 feet above the sea, and at its headwaters it is 247 feet above Lake Champlain.

In 1609 Champlain sailed up the lake which bears his name, and Indians told him of the beautiful water called Andiatarocti (Place Where the Lake Contracts) but there is no record that he ever saw Lake George. Father Jogues, a Jesuit missionary, first saw the lake while a captive in Mohawk hands on 9 Aug. 1642; but it was not till he saw it a second time on 29 May 1646, that he called it Lac du Saint Sacrament, or Lake of the Blessed Sacrament, owing to his having seen it on the eve of Corpus Christi, a name which it retained

until it was changed by Gen. William Johnson, 28 Aug. 1755, and given that of Lake George, after George II. The name "Horicon" given it by Cooper, is an historical fraud, the creation of the novelist's brain.

This lake is on the direct route of travel which was used in the early days of exploration and colonization in journeying to and from Canada and New York. It was on the Great War Trail of the Nations, and was in turn under the control of the French, the English and the Colonists, while our country was in its formative stage. During the French and Indian War, forts were built at Carillon (Ticonderoga) by the French, and at the head of Lake George (Fort William Henry, Fort George and Fort Gage) by the English. It has been the scene of numerous bloody contests, between the whites and the Indians, the French of Canada and the English of the colonies. The encounter known as the "Battle of Lake George" occurred 8 Sept. 1755, between the French and Algonquins under Baron Dieskau, and the English and Iroquois under Sir William Johnson, with an Indian chief, King Hendrick, in charge of the Indians. A monument commemorative of this battle was unveiled at Lake George 8 Sept. 1903. It consists of heroic figures of Sir William Johnson and Chief Hendrick, designed by Albert Weinert. The State of New York has purchased here a large tract of land, containing the battlegrounds and Fort George, the reservation being known as "Battle Park." A few miles to the south King Hendrick fell, while a monument marks the spot where Col. Ephraim Williams, founder of Williams College, met his death.

Among the more important events associated with Lake George were the siege by Montcalm, capture and massacre at Fort William Henry 9 Aug. 1757; the gathering of Lord Abercrombie's great army, its defeat and death of Lord Howe at Ticonderoga, 5–8 July 1758; the building of Fort George, advance down the lake and capture of Fort Ticonderoga by Lord Amherst, July 1759; capture of Fort Ticonderoga by Ethan Allen, May 1775; removal of guns and stores over the lake, winter of 1775–76 to Boston by Col. Henry Knox; and occupancy by American forces, spring 1776, followed by devastating smallpox epidemic; seizure by General Burgoyne, summer 1777; unsuccessful attack on Diamond Island by Americans under Colonel Brown on English forces, 22 Sept. 1777; capture of Fort George by Maj. Christopher Carlton (English) October 1780; visit of General Washington and staff, July 1783.

The State has bountifully stocked its waters with fish. Deer, black bear, rabbits, partridges, foxes, minks and rattlesnakes are to be found among its mountains, and ducks, eagles, gulls and all kinds of wild birds fly above its waters. The lake is surrounded by mountains, the most striking of which are Prospect (1,800 feet), Buck (2,000 feet), Tongue, with its succession of mounts, Erebus, Shelving Rock, Black (2,315 feet), Anthony's Nose, named after Anthony Wayne, and Rogers' Slide, after the fabled exploit of Rogers the Ranger, in 1757–58.

Lake George has more than 200 islands, among the largest of which are Long and Big Burnt islands; Dome Island is the highest, Green Island is the most beautiful, and Diamond the most celebrated historically and sentimentally; Tea—so-called from "a tea house" erected there in 1828; Recluse and Floating Battery, occupied by Abercrombie 1758; Fourteen Mile, used by Burgoyne's forces for camping purposes; Harbor Islands, scene of a bloody conflict (25 July 1757) between French and Indians and English; and Prisoners', at foot of lake, used by the French as a place of confinement for captives. "The Narrows," half way down, are narrow passages in the lake, clustered with large and small islands, known generally as the "Hundred Islands."

There are many indentations in the lake line, some forming large bays. The best known are Dunham's, Kattskill, Bolton, Northwest, in itself a considerable lake, Fourteen Mile and Paradise, the most beautiful bay in the world. The lake is well served by three fine steamers run in connection with the Delaware and Hudson Railroad and Champlain Transportation Line. The principal villages on the lake are — Lake George, at the head, located in the town of Caldwell, Bolton Landing and Hague, near which are the Dixon graphite mines, the largest of their kind in existence. The ruins of Fort Ticonderoga (q.v.) are not far from the foot of the lake. Geologieally, Lake George is thought to be a formation of the Glacial Age. To the mineralogical expert specimens of value are readily accessible in the surrounding mountains. Garnets, resinites, cocolite, pyroxene, sphene, graphite and tourmaline are found at Rogers' Slide; feldspar, hermatite at or near Anthony's Nose; while the beach sands contain powdered garnet, amethyst, crystal quartz, magnetic sand and epidote; on Diamond Island are found quartz crystals; gold in non-paying quantities has also been discovered.

Consult Reid, 'Lake George and Lake Champlain' (New York 1910); Seelye, 'Lake George in History' (Lake George 1897).

JAMES A. HOLDEN.

LAKE HERRING, or **LAKE WHITING,** a local name for certain whitefish of the Great Lakes, especially the cisco (q.v.).

LAKE LAHONTAN. The name of the early French explorer Lahontan was given by Clarence King to a large body of water which in the Pleistocene Epoch occupied 8,422 square miles of the Great Basin province of northern Nevada. It was caused by a cycle of increased precipitation during the Glacial times. With increasing aridity of climate the water dried up until at present there remains only a few scattered saline lakes or ponds; of these Pyramid, Winnemucca, Carbon, Walker and Honey lakes are the most notable. At its maximum, when the lake was about 500 feet deep, and also at an intermediate stage, terraces were developed. These are conspicuous on the present desert slopes especially where deltas were formed by streams emptying their load of gravel and sand into the lake. As dessication progressed the waters of the lake became increasingly saline and deposited tufa or impure calcium carbonate especially of the variety thinolite; this occurs in columns, terraces and other forms in various parts of the area. For detailed description consult I. C. Russell, Monograph 11, United States Geological Survey.

LAKE SCHOOL, or **LAKISTS,** a name given by the *Edinburgh Review* to certain

British poets who came forward conspicuously at the beginning of the 19th century, and endeavored to substitute a natural and simple taste for the classicism of which Addison and Pope furnish leading examples. They received their name from the picturesque lakes of Cumberland and Westmoreland, where Wordsworth, Coleridge and Southey had fixed their residence.

LAKE-TO-SEA COMMISSION, or International Waterways Commission. In June 1902 President Roosevelt approved an act of Congress (Rivers and Harbors Act) providing for the appointment of an international commission of six members, three representing the interests of the United States and three from Canada, to investigate and report upon the conditions and uses of the waters adjacent to the boundary line between the United States and Canada. A corresponding act was passed by the Dominion government. At the meetings of the commission held in 1905 it became apparent that the United States government placed a much narrower construction upon the acts authorizing the appointment of the commission than that applied to it by the Canadian government, which held that the scope of the commission's powers included all waters adjacent to the boundaries of the two countries. The United States government, on the other hand, interpreted the inquiries of the commission as being limited to the waters of the Great Lakes. The point was yielded by the Canadian government.. Among the questions discussed at subsequent meetings are the uses of the waters at Sault Sainte Marie and of the Niagara River, and an equitable division thereof; the protection of Niagara Falls as a scenic spectacle; proposed uniformity in marine signal lights between the two countries; the advisability of building controlling works at the outlet of Lake Erie; the diversion southward of certain waters in Minnesota that now flow north into the Rainy River and the Lake of the Woods; the effect of the Chicago Drainage Canal on the levels of the Great Lakes and the Saint Lawrence; suppression of illegal fishing on the Great Lakes; common channels, navigation regulation in narrow channels, shore protection and the transmission of electric energy generated in Canada, to the United States, and vice-versa.

On 11 April 1908, the United States and Great Britain concluded a treaty respecting the demarcation of the international boundary between the United States and Canada, which for that purpose is divided into eight sections.

A new commission with enlarged powers for dealing with all international water rights on the frontier between the United States and Canada was created under treaty of January 1909, under which the International Joint Commission was created in 1911. This commission is vested with authority to deal not merely with boundary waters, but also with "all questions which are now pending between the United States and the Dominion of Canada, involving the rights, obligations or interests of either in relation to the other, or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise." It is composed of six members, three from each country, and holds sessions at Washington in April and at Ottawa in October in each year. This body has now superseded the old Lake-to-Sea or International Waterways Commission, save as respects the determination of the boundary through the Great Lakes, with which duty it was specially charged by the treaty of 11 April 1908, already referred to.

LAKE SILVERSIDES. See SILVERSIDES.

LAKE STATE, The, a popular name given to Michigan. Its shores are watered by lakes Superior, Michigan, Huron and Erie. The Indian word Michigan signifies "great water."

LAKE STURGEON, the sturgeon (*Acipenser rubicundus*) of the Mississippi Valley and Great Lake region. It is also called Ohio, Black, Stone and Rock Sturgeon, and is the most common of the North American freshwater sturgeons, weighing 50 to 100 pounds. See STURGEON.

LAKE TROUT, two salmonoid fishes of the genus *Cristivomer* inhabiting lakes in the northern United States and southern Canada, (1) the Great Lake trout (*C. namaycush*); and (2) the siscowet (*C. siscowet*). The former, and more important, occurs in most of the larger lakes and ponds from New Brunswick to Idaho and Vancouver Island, and throughout northern Canada and Alaska. The Canadians call it namaycush and by other Indian names; in Maine and Vermont it is known as "togue" and "longe" respectively; and on the upper Great Lakes as Mackinaw trout. It is the largest of the trout family, sometimes exceeding 100 pounds in weight, but the average specimen weighs from 15 to 20 pounds; the biggest fish are found in the largest and deepest lakes. It is trout-like in form, thin-skinned, with little or no underlying fatty tissue, and dark gray spotted with round paler spots sometimes of a slightly reddish tinge. It is fierce and voracious, seizing and feeding upon "all fishes with soft fins" and anything else edible that falls in its way; and when mature it can hold its own against any other depredator, so that it may be regarded as ruler of the lakes. It spawns on the reefs in the late autumn, but otherwise dwells in the deeper waters; Jordan says that the usual number of eggs deposited at one spawning is only 5,000 or 6,000. As a gamefish it seems variable, in some waters affording good sport by trolling with a spoon-bait or live minnow, and in others having small repute among anglers. All agree, however, as to the excellence of its flesh on the table; and it furnishes a commercial fishery on the Great Lakes only excelled in importance by that for whitefish. These trout are usually caught by vast gill-nets operated by steam vessels, and three or four tons are sometimes taken in a single haul. About 1885 the supply in the Great Lakes was diminished to an alarming extent; but artificial propagation by the State and national governments soon restored the quantity, so that at the beginning of the present century more could be taken by fishermen than could profitably be sold. It is outranked in market-price and demand, however, by the whitefish.

The siscowet is very similar, but has a deeper body, thicker skin, beneath which is an excessive development of fatty tissue and paler coloration. It is rarely seen outside of Lake Superior, where it is numerous in deep water. (See SALMON; TROUT), and consult works there

cited. Consult also Goode, 'American Fishes' (1888); Jordan and Evermann, 'American Food and Game Fishes' (1902); Sage and Cheney, 'Salmon Trout' (1902).

LAKE OF THE WOODS, a boundary lake, partly in the province of Ontario, Canada, and partly within the State of Minnesota and with a small part in Manitoba, 190 miles west-northwest of Lake Superior and 377 feet above its level. It is broken by one long promontory and several smaller ones into distinct portions, of which only the southern, containing Big Island, is properly designated the Lake of the Woods, while the eastern bears the name of White Fish Bay, the northern, which is studded with islands, being called Clear Water Lake, and the northwestern, Shoal Lake. The whole expanse of water forms a single lake of very irregular shape about 65 miles in length and from 10 to 60 in breadth, the water area being about 1,851 square miles. It is navigable for vessels, drawing not more than nine feet of water, from Kenosa to the mouth of Rainy River, and there is steamer service between Rat Portage, Norman and Keewatin. Rainy River, the principal feeder of the lake, enters it at its southeastern extremity, just below Fort Louise; its discharge is at the north by the Winnipeg. It abounds with sturgeon. The boundary between Canada and the United States follows the Rainy River to its mouth in the lake, and then proceeds across the lake in such a way as to leave Big Island to Canada, whilst giving most of the Lake of the Woods proper to Minnesota. A little west of the meridian of 95° the boundary strikes due south to meet the parallel of 49°, which is then followed, the result being that the United States owns an isolated portion of the land on the northwest shore. There are gold mines in the neighborhood. Lake of the Woods was discovered by Jacques de Noyon in 1688, and on one of its islands Jean La Vérendrye was murdered by the Sioux in 1736. See BOUNDARIES OF THE UNITED STATES.

LAKEWOOD, N. J., township and village of the same name in Ocean County. The town is a famous health and winter resort, surrounded by an extensive pine forest, in which are numerous lakes. Here are numbers of large hotels and many cottages owned by residents of New York and Philadelphia. Known for more than a score of years to a few, discovered and originally promoted by men who found here the conditions which were a necessity of long life, and developed and made successful by the presence of manifold advantages, Lakewood is known on both sides of the ocean, among the most critical and intelligent travelers from Canada to the Gulf and from the Atlantic to the Golden Gate, in Europe and on the Continent as the most popular resort in America's Middle East. Lakewood has grown steadily in its normal population, as well as its taxable inventory. Its streets and avenues, carefully laid out and well built of stone, are kept in perfect repair during the season and afford one of the chief charms of the place in an almost endless variety of drives. The lakes of the place, among its great charms, are protected carefully from contamination and at once furnish an adequate water supply for fire purposes, are points of much attraction at the infrequent times when skating is available, and throughout the season a picturesque viewpoint, admired by thousands. Pop. 5,149.

LAKMÉ, ląk'mā, a beautiful tragic opera in an Indian setting, composed by Léo Delibes, libretto by Gille and Goudinet. First produced in Paris on 14 April 1883. Lakmé, a Hindu maiden, falls in love with Gerald, an English officer, whom she found trespassing on sacred ground near the temple of her father, Nilakantha, a fanatical Brahmin priest, who hates the English and resolves to kill Gerald. Disguised as a beggar and armed with a dagger, the father sets out for the city accompanied by his daughter, disguised as a street singer, to find the Englishman. The latter, as expected, recognizes the girl's voice and betrays himself. He is stabbed by Nilakantha, but the girl with the help of a slave conveys Gerald to a hut in the forest and nurses him back to health. A brother officer appears and recalls Gerald to his sense of duty. The bugle calls and he must away. Reading his resolve in his face that he means to leave her, Lakmé eats a poisonous flower and dies in his arms.

LAKSHMI, läksh'mē (Prosperity), in Hindu mythology the wife of Vishnu and the goddess of fortune. She is the female or productive energy of Vishnu, and hence is in many cases regarded as an expression of the attributes of Vishnu. She is said to have been produced from the ocean of milk when churned by the gods to obtain the beverage of immortality. She was thus born in the full flush of beauty, adorned with a diadem and with gems on her neck and arms, bearing in her hand a lotus. As soon as she was born she betook herself to the bosom of Vishnu, to whom she was ever faithful. According to a later view, that of the worshippers of Vishnu, this god produced three goddesses, Brâhmi, Lakshmi and Chandika, the first his creative, the second his preserving and the third his destroying energy. See SRI.

LALANDE, Joseph Jérome le Français de, zhō-zĕf zhā-rōm lē frăn-sā dē lā-lănd, French astronomer: b. Bourg-en-Bresse, Ain, 11 July 1732; d. Paris, 4 April 1807. He devoted himself to mathematics and astronomy and was sent by the Academy in 1751 to Berlin to determine the parallax of the moon, while Lacaille went with the same object to the Cape of Good Hope. After having finished his operations at Berlin, he was chosen member of the Academy of Sciences in Paris in the year 1753. Thenceforward no volume of their 'Transactions' appeared which did not contain some important communication from him. In 1762 he was appointed professor of astronomy in the Collège de France, where he lectured with great success to the end of his life, and in 1795 was appointed director of the Paris observatory. His chief works are his 'Treatise on Astronomy' (1764); 'History, Theory, and Practice of Navigation'; and 'Astronomical Bibliography.' He wrote all the astronomical articles for the great 'Encyclopédie' and rewrote them for the 'Encyclopédie Méthodique,' and contributed to various scientific periodicals, besides editing the 'Connaissance des Temps' from 1760 to 1775 and from 1794 till his death.

LALANDE'S DOG. See CAPE FOX.

LALEMENT, lăl-măn, **Gabriel,** French Jesuit missionary: b. Paris, 10 Oct. 1610; d. in the Huron country, 17 March 1649. He became a Jesuit in 1630, arrived in Canada in 1646 and in 1648 was sent to the Huron missions under de Brĕbeuf. He was there about a month when the Iroquois attacked the settlement of Saint Ignatius and later attacked the Saint Louis mission, where they captured de Brĕbeuf and Lalement. They led the two priests to Saint Ignatius, there tied them to stakes and after horrible torture put them to death. Consult Martin, 'Hurons et Iroquois.'

LALEMENT, Jerôme, French Jesuit missionary in America: b. Paris, 27 April 1593; d. Quebec, 26 Jan. 1673. In 1610 he entered the Jesuit order, then taught in educational institutions of the order, and in 1638–45 was superior of Huron Jesuit mission in New France. In 1645–50 he was superior of all the missions in New France. After a sojourn in France (1650–59), he returned to America to resume his post. Letters and reports by him on the missions for 1639–43, 1646–48 and 1660–64 appear in the great compilation of the 'Jesuit Relations' (1896–1901). Consult also Parkman, 'The Jesuits in North America' (new ed., 1898).

LALITA-VISTARA, lă-lĭ-tą-vĭs'tą-rą, one of the most celebrated works of Buddhistic literature, of unknown origin and antiquity, existing only in a Sanskrit version. It contains a narrative of the life and doctrine of the Buddah Sakyamuni, and is considered by the Buddhists as one of their chief works treating of religious law.

LALLA ROOKH, lăl'ą rook. This collection of narrative poems on Oriental themes (published 1817) brought Moore £3,000 before Longman, the publisher, ever saw the manuscript, and in popularity justified that price. Its permanent reputation, however, is almost solely that of a curiosity. Moore attempted an Oriental subject upon Byron's suggestion, and following Byron centred the interest of his narrative in love and freedom, but had, like Southey, to rely upon books, referred to in learned-looking notes, for his Eastern color. His framework story of an Indian princess traveling to meet the prince, her bethrothed, and entertained along the way by the prince himself in disguise telling stories, has charm, but the stories themselves are strained in feeling, over-decorated, diffuse. The best of them, 'The Veiled Prophet,' approaches Byron's picturesqueness; 'Paradise and the Peri' has the lyric sweetness of Moore's own 'Melodies.' The references to the cause of Irish freedom are unconvincing and irrelevant. Of romantic love-sentimentality, with due observance of propriety, 'Lalla Rookh' contained an abundance sufficient to win the favor of a generation that liked the sentimentality in Scott and Byron; of real passion it contained about as much as a wedding-cake. One is now chiefly interested in the raillery of the prose passages making fun of contemporary critics. The best judges of Moore's own day did not overrate the merit of his performance, and Hazlitt, who said that the author had mistaken the art of poetry for that of cosmetics, assessed its faults justly if with characteristic emphasis.

WILLIAM HALLER.

LALLY-TOLLENDAL, lă-lē-tŏ-lŏn-dăl, **Thomas Arthur,** COMTE DE: b. Romans, Dauphine, 1702; d. 9 May 1766. He was of Irish parentage, his father having followed the fortunes of James II. Trained to arms, he was made brigadier on the field of Fontenoy for distinguished bravery. He accompanied the Pretender to Scotland in 1745, and in 1756 was selected to restore the French influence in India, for which purpose he was made governor of Pondicherry. He failed in this, surrendered Pondicherry in 1761 and was brought prisoner to England. The following month he was allowed to return to France, where, after a long imprisonment, he was condemned and executed (1766) for treachery, etc. His son (Trophime Gerard, 1751–1830), supported by Voltaire, obtained in 1778 a complete authoritative vindication of his father's conduct. Consult Malleson, 'Count Lally' (1865).

LALIN, lą-lēn, Spain, town in the province of Pontevedra, located in a mountainous region, 37 miles northeast of Pontevedra. Its industrial life depends largely on the agriculture of the highlands, and it has tanneries and paper mills. Pop. 16,300.

LALLEMAND, lą'măn', **Charles François Antoine,** BARON, French general: b. Metz, 23 June 1774; d. Paris, 9 March 1839. A volunteer of 1792, he became an aide-de-camp of Junot and gained the grade of colonel by his conduct at Jena. In Spain he was advanced (1811) to brigadier-general and took an important part under Davout (1813–14) at the defense of Hamburg. Given command (1815) by Louis XVIII of the department of the Aisne, he attempted, unsuccessfully, to create a rising in favor of Napoleon, who named him general of a division and peer of France. With Napoleon's surrender and deportation to Saint Helena, he desired to accompany the emperor but was forbidden. After several months internment at Malta, he was released, and after traveling to the East and to Egypt without finding employment, he sailed (1816) for America at the head of a number of other refugees who had been condemned to death by the ordinance of the 24th July. Meeting his brother here, they started to found a colony in the name of Champ d'Asile in Texas but encountered trouble with the Spaniards and he abandoned his plans. He had plans for releasing Napoleon, who left him 100,000 francs in his will (1821), but he is next heard of in Spain offering his services to the Constitutional party; he next went to Brussels and to Paris (in spite of the death sentence) and finally to New York, where he directed an educational establishment. Re-entering France after the revolution of July he was reinvested (1831) with his titles and made a peer of France (1832), commanding successively the 17th and the 10th military divisions.

LALO, lą-lō, **Edouard Victor Antoine,** French composer: b. Lille, 27 Jan. 1823; d. Paris, 22 April 1892. He was a pupil, under Baumann, at the Lille branch of the Paris Conservatory, becoming first known at Paris as the violinist in Armingaud's chamber-music soirées, soon issuing his own chamber-music pieces. His opera 'Fiesco' (1867) was never presented but the ball-music was played in concerts (1872). His first full success arrived with

his grand opera play, 'Le roi d'Ys' (1876), his third opera, 'La Jacquerie,' was not finished till (1896) brought to completion by Coquard. His grand ballet, 'Namouna,' was included in the grand opera (1882), then in concerts, and his pantomime, 'Nero,' was played in 1891. As composer of instrumental pieces he was more fortunate, showing warmth and talent. He wrote three violin-concertos: the first dedicated to Sarasate, the second, 'Symphonie espagnole,' and the third, 'Concerto russe'; also a cello-concerto, piano-concerto, a 'Rhapsodie norvégienne' for the orchestra, a symphony, etc.

LAMA, genus *Camelidæ* including all the South American camel family represented by the species vicuña, guanaco, llama and alpaca. The two former are wild and the others domesticated races. O. Thomas decided the relationship of the domestic to the wild races as being derived from the wild guanaco. They are all smaller in size and build than the camels and have no hump on their backs. Their pointed ears are relatively longer than the camels, their tails a mere stump, toes separated each with its pad. There is a tooth less than the camels on each side of the upper jaw. They live in western and southern regions of South America in temperate climate, as the higher ranges of the Andes and Cordilleras, in Patagonia, Tierra-del-Fuego, etc. See LLAMA; ALPACA; VICUÑA.

LAMAISM, lä'mą-iz'm, the name usually given in the Occident to the form of Buddhism which is the prevailing religion in Tibet and in parts of central Asia. The word is derived from the Tibetan *Lama,* "Superior One," a term properly applied to the higher clergy, though often given by courtesy to all fully ordained monks. Buddhism was first introduced into Tibet in the 7th century A.D., during the reign of King Srong-tsan Gam-po, who married two Buddhist princesses, the one from Nepal and the other from China; but the religion made little headway until King Thi-srong De-tsan about 750 A.D. caused it to be preached throughout his dominions by an Indian teacher named Padmasambhava. This remarkable man, who is famous in Tibet for his supposed magical powers, succeeded in converting most of the people from their former religion, an animistic belief known as "Bon," but only by incorporating much of its demonolatry into the already corrupt form of Buddhism that he taught. At this time the order of monks, or Lamas, was established, monasteries were built, and the translation of the sacred books from Sanskrit into Tibetan was actively carried on. After an ineffectual persecution by King Lang Darma in the 9th century, which led to the ruin of the reigning dynasty, Buddhism soon regained its sway and the authority of the monastic order increased. In the 11th century Atīsha, a monk from India, tried to reform some of the abuses then prevalent and to spread a purer theology, an effort which gave rise to the sectarian divisions of Lamaism. The Sa-kya sect was especially favored by Kublai Khan, the Mongol emperor of China in the 13th century, who recognized its Grand Lama's spiritual and temporal supremacy over Tibet. Another reformer arose in the person of Tsong-kha-pa (1355–1417), who revived the strict monastic discipline and founded the Ge-lug-pa or "Virtuous Method" sect, often known as the "Yellow-hat" sect, from the color of its headdress, that of the other sects being red. Its third Grand Lama converted the inhabitants of Mongolia, and received from one of their chieftains the title of Dalai ("ocean-wide" or "all-embracing") Lama, by which his successors have generally been known to Europeans. The fifth Grand Lama of the Ge-lug-pa, named Ngag-wang Lo-zang Gya-ts'o, gained the temporal power over Tibet with Mongol aid about 1640, and began the building of the great palace-monastery of Potala near Lhasa, the capital. In the following century the Chinese government asserted its suzerainty over Tibet, and it has since then kept the Dalai Lamas subject to its political control, without, however, diminishing their ecclesiastical prestige in Tibet and Mongolia. At the present day Lamaists are also found in Manchuria, among the Buriat tribes in Siberia, the Kirghiz, and the Kalmuks on the Volga. In the south the inhabitants of the Himalayan districts of Ladakh and Bhutan and, in part, of Sikkim and Nepal belong to one or another of the Lamaist sects. The total number of the adherents of the religion is perhaps 10,000,000.

Beliefs.— The Buddhism which Padmasambhava brought to Tibet was that of the Mahāyāna school (see MAHAYANA), to which the mystical rites and theories of the Tantra (q.v.) had already been added. The doctrinal peculiarities of Lamaism are to be found mainly in its luxuriant mythology and demonology, derived partly from Hindu and partly from Tibetan sources. Beside and indeed outranking the historic Gautama or Sakyamuni are the figures of the divine "meditative" Buddhas (usually five) with their active celestial emanations, called Bodhisattvas, and their appearances on earth as human Buddhas in the present world cycle, Gautama himself being the most recent of these. A "primordial Buddha," or first cause, is also recognized. Especial reverence is accorded to the Bodhisattva Avalokiteśvara, "the all-seeing, merciful Lord," who is the offspring of Amitābha Buddha and the heavenly counterpart of Gautama, to Manjuśrī, the god of wisdom, and to the fierce Vajrapāni. There are corresponding female Bodhisattvas or goddesses, of whom Tārā in her various forms is most worshipped. The foregoing deities, together with others, mostly of fiendish aspect, serve as "tutelaries," and both the various sects and each individual Lama have their respective patrons. Another highly revered class of demons is that of the "Defenders of the Faith," and there are many inferior spirits, friendly or malignant. Famous religious teachers, both Indian and Tibetan, have been canonized and are worshipped as incarnations of the deities.

Hierarchy.— The monastic order, which, though an essential part of Buddhism, was loosely organized in earlier times, has become in Lamaism a highly developed system controlling the entire religious life of the community. The monks or Lamas are very numerous, and usually live together in monasteries, although some are hermits and others are found in the villages of the laity. The rule of celibacy is strictly observed only by the Yellow-hat sect. Communities of nuns also exist, but they are few and less highly regarded. The

order has four regular grades, probationer, novice, fully ordained monk and abbot; but above these stand the "reincarnate" Lamas, who are supposed to be the earthly manifestations of deities or of deceased saints. The Dalai Lama himself is regarded as the incarnation of Avalokiteśvara, his scarcely less reverenced colleague, the head of the monastery of Tashi-lhunpo, known as the Pan-ch'en Lama, as that of Amitābha, and the other chief Lamas of Tibet, Mongolia and elsewhere, over a hundred in number, claim similar origins. The mode of succession to these dignities, as practised for the last 500 years, is a peculiar one. The spirit of the deceased Lama is supposed to become reincarnate after a few weeks or sometimes a longer interval in an infant of marvelous birth and character. Search is made for children possessing such qualifications, and after preliminary tests the names are drawn by lot, under the supervision of other chief Lamas, and the new Lama is thus found. Sometimes, especially in Mongolia, the succession is restricted to members of particular tribes or even families.

Ritual.— The Lamaist system is highly sacerdotal, and the ceremonies of worship are carried on by the monks, who have in their monasteries temples richly adorned and containing many images. The analogy between the rites of Lamaism and those of the Roman Catholic Church has often been noticed, but Christian influence, though possible, has not been definitely proved, since Lamaist ritual may well be a natural development from the tenets of Mahāyāna Buddhism. Public worship consists usually of prayers, hymns and the presentation of cakes, rice, water and other offerings to the Buddhas and the other gods. Sacred sentences, the best known of which is the *om mani padme hūm,* or "Jewel-lotus" formula, are repeated in private devotion with the aid of a rosary or, when printed on paper together with mystic diagrams, are inserted in the well-known praying wheels or used as flags. Sorcery and magic are in high repute, even among the members of the reformed Yellow-hat sect, who possess an official oracle, and astrologers are often consulted. There are many religious festivals, the greatest being the feast of the conception of Gautama Buddha in the first month (February), the commemoration of his death in the fourth month, the water festival in the autumn and the festival of Saint Tsongkha-pa in the 10th month. A great mystery-play is enacted toward the close of the year.

General Influence.— While Lamaism in its distinctive features and as it is found in ordinary practice presents itself to the Occidental mind as a form of polytheistic superstition in which the propitiation of fiendish powers is a chief element, the ethical side of early Buddhism and its teachings have an ameliorating influence upon the more enlightened among the people, especially the clergy.

Literature.— The sacred books of Lamaism are the Canon proper, called the 'Kah-gyur' or 'Kanjur,' which is divided into 100 or sometimes 108 bulky volumes, and the Commentaries, the 'Tan-gyur' or 'Tanjur,' containing 225 volumes. The former consists mainly of translations from the Sanskrit of the scriptures of the Mahāyāna school, and of works on the Tantra system, together with a few translations from the Pāli and the Chinese; the latter form a huge collection of theological, exegetical and scientific works partly of Indian and partly of Tibetan origin. Consult analysis of the 'Kanjur' made by Csoma Körösi, as translated and augmented by L. Feer in *Annales du Musée Guimet* (Vol. II, pp. 131–573, 1881).

For modern accounts of Lamaism, consult Grünwedel, A., 'Mythologie des Buddhismus in Tibet und der Mongolei' (1900); Köppen, C. F., 'Die lamaische Hierarchie und Kirche' (1859); Schlagintweit, E., 'Buddhism in Tibet' (1863); Schulemann, G., 'Die Geschichte der Dalailamas' (1911); Waddell, L. A., 'The Buddhism of Tibet' (1895).

CHARLES J. OGDEN.

LAMAMIAO, China, a town in southeast Mongolia known to natives as Dolonnor. It is in the jurisdiction of the province Tchili and is located on the western slopes of the Chingan Range at an altitude of about 4,000 feet. It has an earthen wall, narrow, unclean streets and two large monasteries. Its inhabitants number about 30,000 and it is a large commercial emporium trading with eastern Mongolia, Chinese bartering tobacco, saddles, tents, jewelry and arms against cattle, horses and sheep. It is noted for its skilled workers in clocks, bronze and cast iron idols, bells and vases, known all over China.

LAMANSKY, Vladimir Ivanovitch, Russian philologist and historian: b. Saint Petersburg, 1833. He was professor of Slavic languages at the Saint Petersburg University from 1865 to 1890, and belongs to the most enthusiastic and, at the same time, most learned representatives of the Slavophile movement in Russia. He wrote 'The Slavs in Asia Minor, Africa and Spain' (1859); 'Serbia and the Southern Slav Provinces of Austria' (1864); 'Historical Study of the Greco-Slavic World' (Saint Petersburg 1871), in which he advances his theory of the contrast between the Greco-Slavic and the Romano-Germanic world. He wrote works also on the language and literature of the Bulgarians (1869); the literary monuments of the ancient Czechs (1879). In 1884 and later he issued 'Secrets d'État de Venice,' concerning 15th and 16th century documents in the archives of Venice, and (1892) the work 'The Three Worlds of the Asiatic-European Continent.' He has been, since 1890, editor of the ethnographic periodical *Zivaja Starina.*

LAMAR, lā-mär', or **LAMAR Y CORTEZAR,** lā-mär' ē kōr-tā-thär', **José,** Spanish-American general: b. Cuenca, Ecuador, 1778; d. San José, Costa Rica, 11 Oct. 1830. He went to Spain in his youth, and entering the army there fought against the French at Saragossa. He was ordered to Peru in 1815, and was governor of Callao Castle at the time of its surrender, 21 Sept. 1821. He then joined the revolutionists and in 1824 became marshal. He was elected President of Peru in 1827; caused the deposition of Sucre, President of Bolivia; provoked a war with Colombia, in which he was defeated, and on 29 June 1829 was deposed by his own officers and exiled.

LAMAR, lā'mär, **Lucius Quintus Cincinnatus,** American jurist: b. Eatonton, Putnam County, Ga., 1 Sept. 1825; d. Macon, Ga., 23 Jan. 1893. He was graduated from Emory Col-

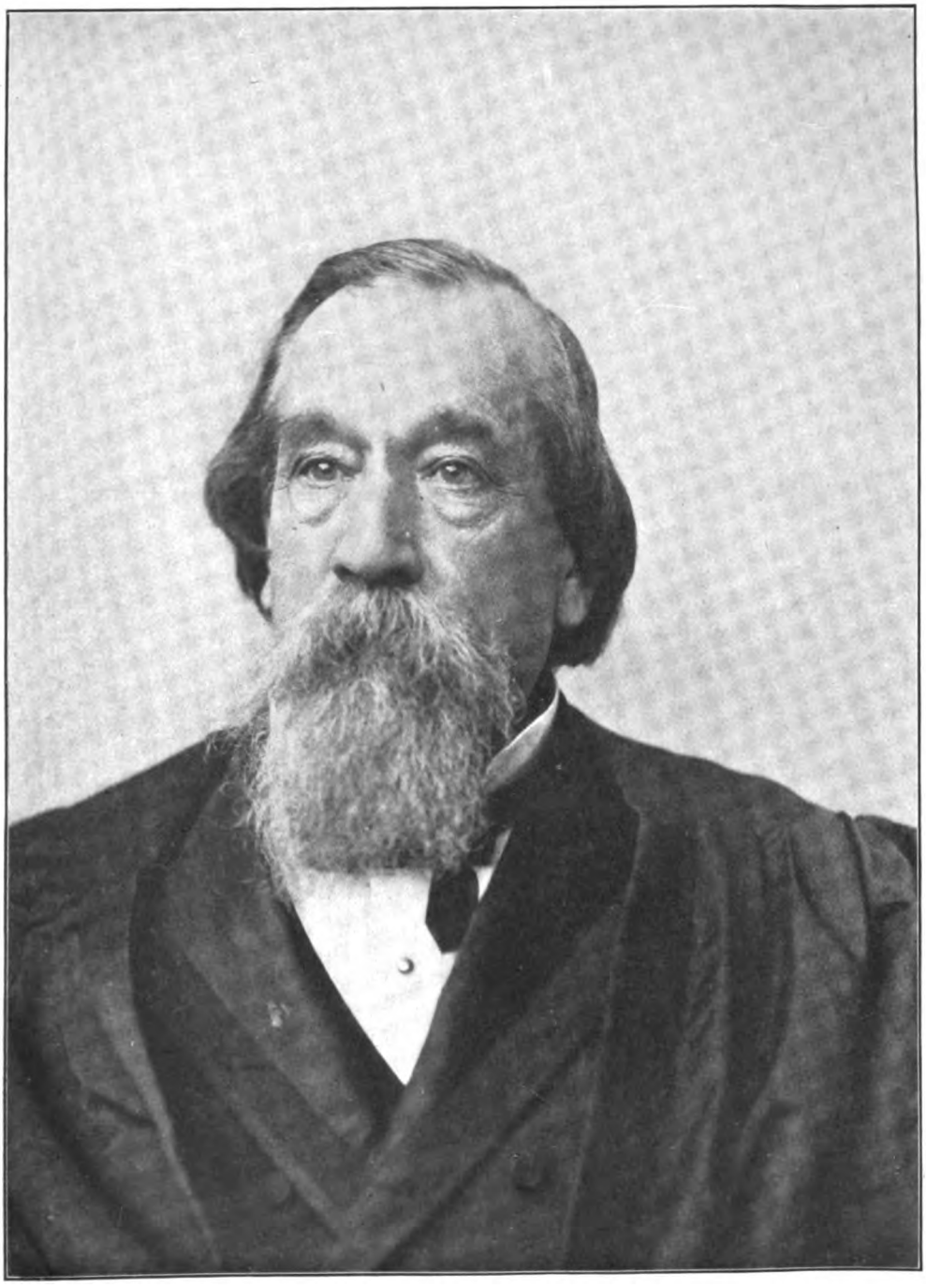
lege (Oxford, Ga.), studied law at Macon, was admitted to the bar in 1847, removed in 1849 to Oxford, Miss., was there professor of mathematics in the University of Mississippi (1850–52), in 1852–55 practised at Covington, Ga., was elected to the Georgia legislature in 1853, and having returned in 1855 to Mississippi, was there elected representative in Congress in 1857 and 1859. In 1860 he resigned his seat in Congress; drafted Mississippi's ordinance of secession; and was a member of the State convention that passed it (9 Jan. 1861). Chosen lieutenant-colonel of the first Confederate regiment organized in Mississippi, serving with his regiment at Yorktown and Williamsburg, he resigned from military service in October 1862, and in 1863–64 was in Europe, whither he had gone as commissioner to Russia, though he did not proceed to his post. From December 1864, until the close of the war, he was judge-advocate of the military court of the 3d Army Corps with the rank of colonel. After the war he held the chairs of ethics and metaphysics (1866–67) and of law (1867–70) in the University of Mississippi; he resigned when the Republicans secured control of the university upon the readmission of the State into the Union. He was a representative in Congress (1873–77) and a United States senator (1877–85); and Secretary of the Interior in President Cleveland's Cabinet (1885–88). From 1888 he was an associate justice of the United States Supreme Court. He bent his efforts to bring about a reconciliation and a better understanding between the South and the North. On 27 April 1874 he pronounced before the House a eulogy on Charles Sumner, highly praised for its eloquence and generally for its liberal tone, but so displeasing in that respect to many of his constituency that they endeavored to defeat his re-election. His strong opposition to the debasement or inflation of the national currency caused the Mississippi legislature formally to direct him to renounce either his views or his seat in the Senate, both of which he declined to do. He was re-elected to the Senate by an increased majority. His oration at the dedication of the monument to John C. Calhoun at Charleston, S. C. (1887), was one of the best of his public addresses. Consult the study by Mayes, including Lamar's speeches (Nashville, Tenn., 1896).

LAMAR, Mirabeau Buonaparte, American politician, second President of the republic of Texas: b. Louisville, Ga., 16 Aug. 1798; d. Richmond, Tex., 19 Dec. 1859. After being employed a number of years in mercantile business and farming, he established in 1828 the *Columbus Inquirer,* a journal devoted to the defense of State rights, and was actively engaged in politics until his removal in 1835 to Texas. Arriving there at the outbreak of the revolution, he at once sided with the party in favor of independence, and participated in the battle of San Jacinto, to the successful issue of which the charge of the cavalry under his command greatly contributed. He was soon after called into the Cabinet as Attorney-General, a position which he subsequently exchanged for that of Secretary of War. In 1836 he was elected the first Vice-President of Texas, having for some months previous held the rank of major-general in the army. In 1838 he was elected President, in which office he remained until 1841. During his term of office Texas was formally recognized as an independent republic by the principal powers of Europe. He founded the educational system, advocating the grant of three leagues of land to each county for the maintenance of an academy and 50 leagues for two universities. Upon the breaking out of war between Mexico and the United States in 1846, he joined General Taylor at Matamoras, and fought at the battle of Monterey. He subsequently stationed himself with an armed force at Laredo, where for two years he was engaged in constant conflicts with the Comanches, whose depredations on the frontier he greatly curtailed. He was appointed United States Minister to Argentina in 1857, but did not go to his post. The last public position which he held was that of United States Minister to Nicaragua and Costa Rica, from which he had but lately returned when he died. He published 'Verse Memorials' (1857).

LAMAR, Mo., city and county-seat of Barton County, on the Spring River and the Missouri Pacific and the Frisco Lines railroad systems, 39 miles north of Joplin. Lamar College is located here. There is a public-school library and courthouse. The city has extensive coal mining and lumbering interests and is the centre of a large agricultural district. It has a large flour trade. The city owns the waterworks and electric-lighting plants. The population is about 2,316.

LAMARCK, lą'märk', **Jean Baptiste Pierre Antoine de Monet,** CHEVALIER DE, French scientist, a pre-Darwinian evolutionist: b. Bazentin, Picardy, 1 Aug. 1744; d. Paris, 18 Dec. 1829. He was of noble family, entered the army in 1760, but was compelled on account of an accident to abandon active military service, after which he devoted his attention to study, first to medicine; afterward, after hearing Jussieu's illustrations of botany, he turned to the study of that science. Jussieu had intimated that the old method of classification in botany was defective and Lamarck determined to remedy the deficiency. He labored with great diligence on a treatise in which he showed the defects of the old classification, and proposed a new one which met with general approval. He then applied his new system to the plants of France, and delivered to the Academy his 'Flore Française,' which brought him celebrity and secured his admission to the Academy of Sciences. This work was printed on the recommendation of the Academy, at the expense of the government, for the benefit of the author (1780).

Lamarck now turned his whole attention to botanical research, and made several excursions to Auvergne, and into Germany, in the last of which he was accompanied by the son of Buffon. On his return to Paris he undertook the botanical department of the encyclopædia which Panckoucke was publishing, and applied himself to this task with such assiduity that, in 1783, he produced the first half of the first volume, with an introduction containing a sketch of the history of the science. He published the second volume in 1788. But a dispute between him and the publisher brought the undertaking to a stand, and ended Lamarck's botanical career. At the breaking out of the Revolution



L. Q. C. LAMAR

Late Justice of the United States Supreme Court

he was the second professor of the royal Jardin des Plantes, but in consequence of new arrangements he received a chair in the department of zoology, in which he was soon as much distinguished as he had been in botany. In his writings he shows himself a real forerunner of Darwin. Lamarck's comprehensive mind was also directed toward physics, on which he published several works. He published also a report annually on meteorology and weather predictions. His 'Hydrogéologie' was published in 1802.

Lamarck is the founder of invertebrate palæontology. The most permanently important work of his is 'Philosophie Zoölogique' (1809), although at the time it was published it excited little attention. He was doubtless familiar with Erasmus Darwin's 'Loves of the Plants,' which in spite of its many absurdities contained some premonitions of the great discoveries to be made by the author's greater grandson, Charles Darwin. The essence of Lamarck's theory may be stated in the following propositions: (1) Every considerable and sustained change in the conditions of life produces a real change in the needs of the animals involved; (2) change of needs involves new habits; (3) altered function evokes change of structure, for parts formerly less used become with increased exercise more highly developed, other organs in default of use deteriorate and finally disappear, while new parts gradually arise in the organism by its own efforts from within (*efforts de son sentiment intérieur*); (4) gains or losses due to use or disuse are transmitted from parents to offspring. The main point is of course contained in the last proposition, which is controverted by Darwin and Weismann and their adherents in England and Germany. There is, however, a Lamarckian school of considerable influence in Paris, and the Neo-Lamarckians of the United States, including Cope, Hyatt and Packard, have much to support their "laws of growth" as involving the inherited effects of use, disuse and new environments. See DARWIN; EVOLUTION; HEREDITY.

Consult Butler, 'Evolution, New and Old' (1879); Claus, 'Lamarck als Begründer der Descendenztheorie' (1888); Cox, 'The Founder of the Evolution Theory' (in 'New York Academy of Science Annals,' Vol. XIX, 1910); Haeckel, 'Die Naturanschauung von Darwin, Goethe und Lamarck' (1882); Martins, 'Un Naturaliste philosophe' (Paris 1873).

LAMARCKISM, lą-mär'kĭzm. The theory of organic evolution which, in brief, accounts for the origin of life-forms by change of environment, the exercise or use, and the disuse of organs, and the transmission of characteristics acquired during the lifetime of the individual. It differs from Darwinism in lacking the principle of natural selection.

History of the Rise of the Theory.— Lamarck, in 1801, after 25 years' experience as a botanist, and when as a systematic zoologist he had devoted 10 years of labor in classifying the invertebrate animals of the Paris Museum, then the most extensive zoological collection in the world, published a lecture, delivered in 1800, in which he claimed that time without limit and favorable conditions of life are the two principal means or factors in the production of plants and animals. Under the head of favorable conditions he enumerates variations in climate, temperature, change of habits, variation in means of living, of preservation of life, of means of defense, and varying modes of reproduction. As the result of the action of these different agencies or factors, the faculties of animals, developed and strengthened by use, become diversified by the new habits so that by slow degrees the new structures and organs thus arising become preserved and transmitted by heredity. Although Lamarck did not discover the principle of natural selection, he recognized the fact of competition, of a struggle for existence, but did not dwell on them to the extent that Darwin and later observers did. In 1802, 1803 and 1806 he reiterated and somewhat extended these views, which were published in final form in 1809, in his 'Philosophie Zoölogique,' and again, in 1815, in the introduction to his 'Animaux sans Vertèbres.' By this time Lamarck had become the greatest zoologist of the period between Linné and Cuvier. He was expert in detecting the limits between species, and has given us the best definition extant of a species.

Lamarck's Factors of Organic Evolution. — These in their essential form are contained in his famous two laws:

First Law.— In every animal which has not exceeded the term of its development, the more frequent and sustained use of any organ gradually strengthens this organ, develops and enlarges it, and gives it a strength proportioned to the length of time of such use; while the constant lack of use of such an organ imperceptibly weakens it, causes it to become reduced, progressively diminishes its faculties and ends in its disappearance.

Second Law.— Everything which nature has caused individuals to acquire or lose by the influence of the circumstances to which their race may be for a long time exposed, and consequently by the influence of the predominant use of such an organ, or by that of the constant lack of use of such part, it preserves by heredity (*génération*) and passes on to the new individuals which descend from it, provided that the changes thus acquired are common to both sexes, or to those which have given origin to these new individuals.

Lamarck also insisted that animals are modified in accordance with the diversity of their surroundings; that local causes, such as differences in soil, climate, etc., give rise to variations and that the whole surface of the earth affords a diversity in localities and habits, one region differing from another, that though the environment remains the same for a long time and species remain constant for that period, yet there is a slow gradual change, and species are modified in adaptation to such changes. More over such changes induce alterations in the wants or needs of animals: this necessitates other movements or actions to satisfy the new needs, and hence they give origin to new habits, and this leads to the use or exercise of some organ or organs in a new direction, with the result that different parts or organs are modified in adaptation to the new surroundings and necessities of existence. All this is perfectly true. We now know that by geographical changes or from lack of food animals are compelled to migrate into new regions, and are there obliged to adopt new habits and become transformed into new species or types. Thus

whales have descended from terrestrial forms; the baleen whale has in its embryo stage rudimentary teeth showing that it is a descendant of toothed whales. Lamarck refers to Geoffrey's discovery in embryo birds of the groove where teeth should be situated, and subsequently fossil birds with teeth were unearthed. The mole with its functionless eyes, due to underground life, the blind *Proteus* of Austrian caves, the headless and eyeless bivalve mollusks, these parts lost by disuse; the evolution by atrophy of the limbs of the snake, due to their lack of use in passing through narrow places; wingless insects whose wings have been lost by disuse; the webs between the toes of ducks, geese, as well as those in the feet of the frogs, sea turtles, otter and beaver, are mentioned by Lamarck as examples of the effect of use and exercise. Other examples of use results are the origin of horns in ruminants; the long neck of the giraffe, which by the absence of herbage was obliged to browse on the foliage of trees "and to make continual effort to reach it," the shapes of the carnivores, of the kangaroo and of the sloth which are accounted for by the necessity of their adopting new habits, and, by exercise in new directions, becoming adapted to the new conditions of life. Although Lamarck gave few illustrations, it may be doubted whether any one has since his day more satisfactorily explained the origin of such forms or modifications. Lamarck also accounts for the origin of man, suggesting in a tentative way his rise from an arboreal or ape-like creature, with a detailed hypothesis of the gradual process of his transformation, into a being with an upright posture, an enlarged brain, powers of reason and other human qualities. But besides these special cases Lamarck was broad and comprehensive in his views of nature and creation. He was the first to show that the animal series was not a continuous chain of being, but rather should be compared to a tree, with its branches. In fact he was the first to construct a genealogical tree, the first attempt at a phylogeny of the animal world. He demanded unlimited time for the process of evolution. He anticipated the uniformitarian views of Lyell. He pointed out that where, as in Egypt, the climatic conditions have remained the same for many centuries, species have remained constant, but that under a varying environment they become modified. He writes of the struggle for existence; shows that the stronger devour the weaker; he refers to the principle of competition in the case of the sloth. He repeatedly insists on the fact that vestigial structures are the remains of organs which were actively used by the ancestors of existing forms. He shows, what is much insisted on at the present day, that change of functions in organs leads to their transformation or recreation, and that the assumption of new habits precede the origin of new, or the modification of organs already formed. A great deal is now said of the effects of migration and consequent geographical isolation in the origination of new species; Lamarck invoked this factor in the case of man, and he also pointed out the swamping effects of intercrossing. Lamarck's theory of use-inheritance is denied by some, but by others is regarded as an important factor in evolution. He does not, however, refer to the inheritance of mutilations, etc.

All these views lie at the foundation of the theory of organic evolution; yet Lamarck's opinions were set aside, misunderstood and ridiculed. Some crude and ungrounded hypotheses were mingled with them. In his time the sciences of palæontology, embryology and bionomics were undeveloped. Lamarck collected but few facts, and he lacked the experimental skill of Darwin; so that it was reserved for the latter naturalist, half a century later, to convert the world to a belief in evolution. At present, however, it is acknowledged that Lamarckism affords the fundamental principles on which rests the theory of organic evolution, and many of the most eminent naturalists have worked and are working along Lamarckian lines.

Bibliography.— Packard, 'Lamarck, the Founder of Evolution: His Life and Work, with Translations of his Writings on Organic Evolution' (New York 1901); H. Elliot's translation of the 'Philosophie Zoölogique' (New York 1914); Spencer, H., 'Factors of Organic Evolution' (New York 1895); Cope, 'The Primary Factors of Organic Evolution' (Chicago 1896); Hutton, 'Darwinism and Lamarckism: Old and New' (London 1909).

ALPHEUS S. PACKARD,
Late Professor of Zoology, Brown University.

LAMARTINE, lą'mär'tēn, **Alphonse Marie Louis de Prat de,** French poet and statesman: b. Mâcon, Burgundy, 21 Oct. 1790; d. 28 Feb. 1869. He came of well-to-do parents of royalist sympathies. His father was imprisoned during the Terror. He was educated first by his mother, then, after a brief period at Lyons, by the Pères de la Foi at Berry (1805–09). He then passed two years at home, reading poetry and romance, and was in Italy from 1811 to 1813. At the Restoration he entered the Gardes du Corps. The Hundred Days of Napoleon's return he passed in Switzerland and Aix-en-Savoie. Here a love affair with a girl who died soon after opened a copious poetic vein. After Waterloo he returned to France, revisited Switzerland, Savoy and Italy in 1818–19, and in 1820 published his first book, the much admired 'Méditations.' Soon after he left the army for the diplomatic service, was made secretary of the embassy at Naples and married a congenial, wealthy and beautiful English lady, Marianne Birch. 'Nouvelles Méditations' followed in 1824, with a transfer to Florence and the Cross of the Legion of Honor from Charles X in return for a laudatory poem. In 1829 came "Les Harmonies,' with a mission to Saxe-Coburg and election to the Academy. The Revolution of 1830 terminated his diplomatic career. He entered politics, was defeated in the elections of 1832, made a journey to Palestine, of which he told in 'Voyage en Orient' (1835), was chosen deputy in his absence, and soon gained repute as a ready speaker and effective orator, becoming steadily more democratic in his political sympathies. 'Jocelyn' (1836), 'La Chute d'un Ange' (1838), two fragments of a would-be epic of the human soul, and 'Recueillements' (1839) contain his last significant poetry. The 'Histoire des Girondins' (1847) was less a history than a vaguely

declamatory invitation to the revolution of February 1848, in which Lamartine had a prominent part, being Minister of Foreign Affairs in the provisional government, a member of the Constituent Assembly by concurrent election in 10 departments, and one of its executive committee. His own inexperience and impatience of routine, joined to the futility of his colleagues and the unreason of the mob, led to the conspicuous failure of his efforts to govern by speeches and reconcile the middle class to democracy. In June he yielded to Cavaignac and got but few votes when nominated for the presidency in 1849. His political day was over. He was not even elected to the Assembly. Grown poor in the public service he tried to redeem his fortunes by much writing: 'Confidences' (1849), 'Raphael' (1849), both autobiographical, 'Nouvelles Confidences' (1851), histories of the French Revolution and the Restoration, biographical sketches of Columbus, Jeanne d'Arc, Oliver Cromwell and others, and stories in prose, of which 'Graziella' and 'The Stone Mason of Saint Point' are best known. He edited his own complete works in 41 volumes, 1858–63. A pension, tardy recognition of his sacrifices and his deeds was accorded him in 1867. Amiable, vain, fond of pose, picturesquely sentimental, fatally fluent alike with tongue and pen, with "a habit of inaccuracy" and rhetorical embellishment, without well-grounded political convictions, Lamartine's best titles to remembrance are the poems of his early years. (See MEDITATIONS). Consult Brunetière, 'Evolution de la Poésie lyrique' (Vol. I, 107 ff.); Sainte-Beuve, 'Portraits contemporains' (Vol. I, 190 ff.); Deschanel, 'Lamartine' (Paris 1893); Doumic, R., 'Lettres d'Elvire à Lamartine' (ib. 1895); Séché, L., 'Etudes d'histoire romantique: Lamartine de 1816 à 1830' (ib. 1906) and 'Les amitiés de Lamartine' (ib. 1911); Lacretelle, P. de, 'Les origines et la jeunesse de Lamartine' (ib. 1911); Clouzet, G., 'Lamartine' (ib. 1912); Sachs, E., 'Les idées sociales de Lamartine' (ib. 1915). There are translations of the 'Girondists,' 'The French Revolution' and 'Restoration,' of 'Graziella' and the 'Stone Mason of Saint Point,' and of 'Raphael.' There are school editions of 'Columbus,' 'Jeanne d'Arc' and 'Cromwell' and of excerpts from the 'French Revolution.'

BENJAMIN W. WELLS,
Author of 'Modern French Literature.'

LAMB, Charles, English poet, critic and essayist: b. The Temple, London, 10 Feb. 1775; d. Edmonton, England, 27 Dec. 1834. Lamb was the youngest of three surviving children, among seven, of John Lamb, a clerk in the Inner Temple, and Elizabeth [Field] Lamb. Both parents were of humble and rural origin. Charles passed the first seven years of his life in the Temple, where he received some instruction, and in 1782 went to Christ's Hospital, where he remained the next seven years. Here he met his life-long friend and counsellor, S. T. Coleridge (q.v.). Lamb was known as a gentle and amiable boy, whose natural shyness and sensitiveness were increased by a trick of stammering, of which he never succeeded in completely ridding himself. Aside from these traits, there is to be noted the strain of mania in Lamb's family which in the boy expresses itself as excitability and nervousness. Other important determinants in Lamb's career were the influence of Coleridge, which tended to develop thoughtfulness and a love of poetry, his own liking for early English authors, particularly the Elizabethans, and his genuine and unfailing delight in the life of the city. Though a fair scholar at school, Lamb was really more of a reader, and his reading had a great effect on his literary career and the quality of his work.

Shortly after leaving Christ's Hospital, Lamb entered the South Sea House. In 1791 he got a clerkship in the East India Company at £70 and there remained, with gradual increase in salary, until he was retired in 1825, on a pension of £441. From the time he entered business to his death, his life was singularly uneventful. The critical year, 1795–96, was marked by his father's falling into imbecility, his own solitary attack of mania, and (September 1796) his sister's stabbing of their mother in a fit of insanity. The nature of the hereditary complaint and his sister's need of a guardian determined his mode of life. He turned his back on an inchoate love affair, put aside all thought of marriage and devoted himself to his sister, as she to him in her sane moments. In 1797, on the death of their father, the two began their long life in London, unbroken except for one short trip to Paris. In the period their local home was changed but six times.

Lamb began his literary career in 1797 by the addition of three sonnets to a volume of Coleridge's. His poetical production was small; altogether during the course of his life his known poems number about 110, of which the best known are 'The Old Familiar Faces,' 'Hester' and 'On an Infant Dying as Soon as Born.' In 1798 he wrote 'Rosamond Gray and Old Blind Margaret,' a prose tale of sentiment. Though praised by Shelley and others for a charm that it undoubtedly possesses, the story, as a composition, is very incoherent and shows the writer's lack of technical skill. Structural defects equally great, because of lack of adequate motive in characterization, abound in Lamb's next attempt, 'John Woodvil,' a very undramatic drama, which was refused by Kemble in 1799 and published by Lamb in 1802. Nor was Lamb's third attempt at imaginative literature more successful: the farce, 'Mr. H.,' ran one night in 1806 and is probably one of the least dramatic pieces ever put on any stage. The truth of the matter is that Lamb had very little constructive ability in narrative and dramatic forms, that his attempts in them were due to the influence of the early dramatists, of whose work he was very fond and whose vogue he did much, later, to restore. His liking for them rested on their poetry rather than their dramatic ability.

In the next kind of work that he took up, Lamb had much better success. These were stories retold and they stand in three chief volumes, 'Mrs. Leicester's School,' 'Tales from Shakspeare' (both of 1807), and 'The Adventures of Ulysses' (1808), in many of which his sister was his coworker. Lamb had here his material made for him and, therefore, his own quality was less trammeled. The 'Tales from Shakspeare,' of which Charles wrote the tragedies and Mary the comedies,

quickly went into a second edition and has since become an English classic of a minor order. The stories are retold with much simplicity and with a very happy emphasis on the characters and the moral of the main situation; less is proportionately given to the under-plots. Next to the 'Essays of Elia' the 'Tales' are Lamb's best-known work.

In 1808 Lamb entered the field of criticism, and for the next decade his published writings indicate that his interests were, broadly, of a critical nature. His chief motive for this change seems to have been his desire to express in the form of comment the admiration for the early writers which he had expressed, by imitation, in his own dramas, and, by transcript, in such works as the 'Tales.' In 1808 appeared his 'Specimens of English Dramatic Poets Contemporary with Shakspeare,' with his valuable notes thereon. Other important essays are 'On the Tragedies of Shakspeare' and 'On the Genius and Character of Hogarth,' both of which appeared in Leigh Hunt's *Reflector* in 1811, an essay on Wordsworth's 'Excursion' in the *Quarterly* in 1814, and 'On the Poetical Works of George Wither' published in the collected works of Lamb, issued in 1818. There are also a few minor pieces of criticism, but the amount of Lamb's critical work is exceedingly small in view of its high reputation, and its form is fragmentary. Its place is probably due to the fact that Lamb did very much to restore to their rightful heritage those old writers from whom he drew much of his own inspiration and to the fact that, in an age of critical dogmatism, Lamb insists constantly, though not always with an eye to logic or historical fact, on broad appreciation.

Lamb's fame rests chiefly on the next important work, or rather kind of work, which he attempted. Having practically failed in creative narrative and drama and having achieved only a moderate contemporaneous success in fields of retold stories and criticism and poetry, he turned his attention to the literary essay and found it a proper vehicle for his peculiar genius. Lamb had from time to time during his earlier life as well as his later written miscellaneous essays of a quaintly humorous quality, like 'The Inconvenience of Being Hanged' (1811) and 'The Melancholy of Tailors' (1814), but the idea of regularly using the essay form did not occur to him until the famous 'Essays of Elia.' These were published as books in two series, in 1823 and in 1833, but they originally appeared in the *London Magazine*. For the first two or three years, from August 1820 to December 1822, they were published almost every month; after that they came out at very irregular intervals until 1833. Of the 51 essays and 16 'Popular Fallacies' in the two series only about 14 are really well known; of these 'Imperfect Sympathies' and 'A Dissertation on Roast Pig' are probably the most famous, though such essays as 'The South Sea House,' 'Mrs. Battle's Opinions on Whist,' 'Dream Children' and 'My Relations' are scarcely less well known and in no wise inferior. The essays have, in the main, come to be regarded as the best examples of the personal essay that English literature possesses. Certainly no English essays more completely reveal the personality of the author or reveal it in more winning terms. They are renowned for their quaintness, their wit, their sympathy, their humor, their serenity and their reverence.

Between Lamb's retirement in 1825 and his death, his work in literature was of rather a miscellaneous character. A few essays of the Elia type and some miscellaneous pieces of criticism, and a wholly undramatic and unsuccessful drama, 'The Wife's Trial, or, The Intruding Widow,' are about all that he produced after he "came home forever." See ESSAYS OF ELIA.

Bibliography.— The best edition of Lamb's works is that by Canon Alfred Ainger, in six volumes. This does not include the 'Specimens,' which are most conveniently to be had in the Bohn Library. A full bibliography of Lamb's writing is to be found in B. E. Martin's 'In the Footprints of Charles Lamb' (New York 1890). Canon Ainger's 'Life,' in the English Men of Letters, is the most convenient biography of Lamb; it contains a short but excellent bibliography of the contemporary writers from whom we gain our knowledge of the author. To his list of titles may be added De Quincey's 'Recollections of Charles Lamb.' Of the many essays on the subject, that of Pater, in 'Appreciations,' is probably the nearest to finality.

WILLIAM T. BREWSTER,
Professor of English, Columbia University.

LAMB, Charles Rollinson, American architect and artist: b. New York. He established a high reputation for talented ecclesiastical architecture and decoration in his partnership with his brother Frederick as proprietors of the J. & R. Lamb Corporation. He designed the Dewey Arch erected at Madison Square (1899) for the triumphal procession after the Spanish War, and the Court of Honor erected for the Hudson-Fulton Celebration (1909) was from his designs. He was president of the Art Students' League and of the Municipal Art Society and is trustee for numerous art associations.

LAMB, Daniel Smith, American physician: b. Philadelphia, 20 May 1843. He took his M.D. at Georgetown University in 1867. He volunteered in the United States army in 1861 and was on duty in military hospitals throughout the war. He was acting assistant surgeon at the Army Medical Museum in 1868–92 and since 1892 has been pathologist there. He has been professor of materia medica and then anatomy at Howard University since 1873; and was professor of general pathology at the United States College of Veterinary Surgeons in 1894–1900. He conducted the autopsy on President Garfield. He edited the *Washington Medical Annals,* has written numerous monographs on medical, sanitary and anthropological subjects and is author of 'History of the Medical Department, Howard University, Washington' (1900).

LAMB, Horace, English mathematician and physicist: b. Stockport, England, 27 Nov. 1849. He was educated at Owens College, Manchester, and at Trinity College, Cambridge, where he was Fellow and assistant tutor in 1872–75. He was professor of mathematics at the University of Adelaide, Australia, in 1875–85; and since 1885 has been professor of mathematics at Owens College and the University of Man-

chester. He was elected a Fellow of the Royal Society in 1884, was royal medalist in 1902 and in 1909–10 he served as vice-president of the society. Besides many papers on mathematical physics he is the author of 'Motion of Fluids' (1878); 'Hydrodynamics' (1895; 2d ed., 1906); 'Infinitesimal Calculus' (1897; 3d ed., 1907); 'Dynamic Theory of Sound' (1910); 'Statics' (1912); 'Dynamics' (1914).

LAMB, John, American soldier: b. New York, 1 Jan. 1735; d. there, 31 May 1800. He at first worked in New York with the elder Lamb in the trade of optician and mathematical instrument maker, but in 1760 entered the liquor trade. He was one of the "Sons of Liberty" (q.v.) and active in all the early Revolutionary scenes in New York. He supported the resistance of the colonies to the "Stamp Act" and subsequently went to Philadephia to urge a firm stand against any further oppression. Commissioned captain of artillery in 1775, he was authorized by Congress to remove the cannon from the Battery in New York on 23 August of that year; he subsequently took part in Montgomery's expedition against Quebec, where he was wounded and made prisoner. Later he rose to be colonel and at the time of Benedict Arnold's treason commanded at West Point. After the Revolution he was elected to the State legislature of New York, and for some years previous to his death held the post of customs collector of New York port. Consult the biography by Leake (Albany 1857).

LAMB, Martha Joan Reade Nash, American historian: b. Plainfield, Mass., 13 Aug. 1820; d. New York, 2 Jan. 1893. She was married to Charles A. Lamb in 1852 and removed with him to Chicago, Ill., where in 1863 she was secretary to the United States Sanitary Commission Fair. She made her home in New York from 1866 and was editor of the *Magazine of American History* from 1883 till her death. Her publications include a scholarly 'History of the City of New York' (1877–81); 'The Homes of America' (1879); 'Wall Street in History' (1883); 'The Christmas Owl' (1881); 'Snow and Sunshine' (1882).

LAMB, Mary Ann, a sister of Charles Lamb (q.v.).

LAMB IN ART. In the ancient Christian art of the Catacombs we find the lamb figuring as emblem of the Redeemer as early as the 3d century, though rarely, later to become quite commonly used to represent Christ, and referring to the mention by Saint John the Evangelist and the Jewish Paschal lamb. Some early depictions have an accompanying shepherd's staff, later the Good Shepherd appears. Early in the 4th century we find the symbols of the cross and nimbus, to be followed later by the cross and banner of the Agnus Dei that has continued to this day. Another early representation met with is that of Christ, in the form of a lamb, standing on a mount, from which four streams flow, typifying the four Evangelists. Other pictures give the Savior in human form with a lamb by His side and surrounded by 12 other lambs, symbols of the 12 Apostles. But the primitive Christians used the lamb or sheep as symbol of other Old and New Testament personages; as instances are those where it represents Moses, Saint John the Baptist, the Apostles. In fact the Apostles are found represented by a lamb constantly in the Catacomb frescoes, ancient sarcophagi and ancient mosaics in Roman basilicas. Again, lambs have been used as symbolic of the 12 tribes of Israel. It is generally conceded in ecclesiastical art that when more than 12 lambs are presented they refer to the faithful. Entire Biblical scenes have been depicted in which the sacred personages performing take on the form of lambs. Illustrations which depict the lamb of the Apocalypse represent the symbol, with seven horns and seven eyes, breaking the seven seals of the mysterious book. It is often seen surrounded by crosses and with the four Evangelists depicted at the extremities; several sepulchral brasses display this combination. Ancient pictures portray the lamb performing numerous acts, such as raising Lazarus from the dead, multiplying the loaves in the wilderness, crossing the Red Sea. It is also found being baptized in the Jordan, standing at the foot of the cross, lying slain upon an altar, shedding blood from its breast into a chalice, blood pouring in four streams from its feet. In such cases the lamb is depicted always as carrying a cross. Early mosaics and frescoes show the lamb lying on a throne surmounted by a cross. The lamb pictured on chasubles and altar frontals is often lying, as if dead, upon the Book with the seven seals, also as holding, while standing, the banner of the Resurrection with the fore foot or the rear foot. In this action it has been accepted as the heraldic insignia of several towns, noble families and societies. Artists in depicting the Agnus Dei have generally accepted the following rules: The lamb's body is white; the head is surrounded with a nimbus of gold containing a red cross; the banner, depending from the traverse of a reclining cross, has a white field, red at the base point and a red cross in centre. The whole is usually enclosed either in a circle or quatrefoil with field *azure* (blue) or *gules* (red). As an attribute in ecclesiastical art the lamb is found accompanying Saint Agnes, Saint Genevieve, Saint Catherine and Saint Regina. Saint John is frequently depicted carrying a lamb or accompanied by the Paschal lamb, and buildings dedicated to this saint often show the lamb as decorative motif. In some pictures and statuary the lamb appears as symbol of the virtues the person represented was noted for, such as Innocence, Meekness, Patience, Purity.

CLEMENT W. COUMBE.

LAMBALLE, lân'bâl', **Marie Thérèse Louise de Savoie-Carignano,** PRINCESSE DE, French-Italian princess, friend of Marie Antoinette: b. Turin, 8 Sept. 1749; d. Paris, 3 Sept. 1792. She was the fourth daughter of Prince Louis Victor of Carignano and in 1767 was married to Prince de Lamballe who died in the following year. Upon the marriage of Marie Antoinette the princess returned to court and was accorded the favor of the royal lady, to whom her gentleness and submissiveness greatly appealed. They become close friends and upon Louis XVI's accession to the throne the queen made her superintendent of the royal household. The Comtesse de Polignac supeseded her in 1776–85, when the queen sought a rec-

onciliation and resumed their former intimacy. The salon of the princess was used by the queen as a sort of headquarters for her various intrigues, and as this became known the populace believed the queen's innocent dupe to be the responsible party and hated her accordingly. When, after the Revolution, the royal family, in 1791, attempted to escape the princess made her way to England to appeal for aid for her royal friends. She returned to the Tuileries in November of that year and was permitted to share the queen's imprisonment in the Temple from 10 August until 19 August, when she was removed to La Force. On 3 September she was brought before the tribunal and commanded to take an oath against the king. Upon her refusal she was turned over to the mob, which tore her in pieces and bore her head on a pike before the windows of the queen in the Temple. Selections from her letters were published in Volume XXXIX, 'La Revolution français' (Paris 1900). Consult Bertin, Sir George, 'Madame de Lamballe' (Paris 1888); Lescure, Comte de, 'La Princesse de Lamballe' (1864); Hardy, B. C., 'The Princesse de Lamballe' 1908).

LAMBAYEQUE, läm-bä-yā'kā, Peru, capital of the maritime department of the same name, which was created in 1874. It is situated on the Lambayeque River, about six miles from the Pacific Ocean, the outlets for its trade being the ports of Eten and Pimentel, with which it has railway connection. Cotton and woolen fabrics are manufactured on a small scale. Its inhabitants, mainly of mixed blood, is estimated at 8,000. The department of Lambayeque, lying between the Pacific and the departments of Piura, Cajamarca and Liberdad, has an area of only 4,614 square miles, is only settled along the river valleys where irrigation is possible, but contains some fertile lands which produce good crops of cotton, rice, tobacco and sugar-cane, and there is good pasturage in the uplands. The total population of the department is estimated to be 127,000. Capital, Chiclayo.

LAMBEAUX, läń'bō, **Jef (Joseph Marie Thomas),** Belgian sculptor: b. Antwerp, 1852; d. 6 June 1908. He studied at the Antwerp Academy of Fine Arts and under Jean Geefs. His first production, 'War,' was exhibited in 1871, but owing to financial difficulties his work for some years was confined to profitable humorous subjects. He then went to Paris to study, and in 1881 executed his masterpiece, 'The Kiss,' which is in the Antwerp Museum. He later studied in Italy where the work of Jean Boulogne greatly impressed him, although his style undoubtedly was formed by the Flemish masters. His fountain at Antwerp (1886) is a fine example of his work, and among other famous pieces are 'Robbing the Eagle's Eyrie' (1890); 'The Bitten Faun' (1905), and a colossal marble bas-relief, 'The Human Passions.'

LAMBECK, läm'bĕk, or **LAMBECCIUS, Peter,** German scholar: b. Hamburg, 13 April 1628; d. Vienna, 7 April 1680. He studied at Hamburg, Amsterdam, Paris and Rome, was teacher of history in the gymnasium at Hamburg from about 1650 to 1662 when he became rector. In 1662 he was converted to the Roman Catholic faith and went to Vienna, where in 1665 he was installed as librarian of the Imperial Library. His most valuable works are 'Commentarii de Bibliotheca Cæsarea Vindobonensi' (8 vols., Vienna 1665–69), and the 'Prodromus' of the unfinished 'Historia Literaria' (1710).

LAMBERT, Alexander, American pianist: b. Warsaw, Poland, 1 Nov. 1862. He studied in early life with his father, and on the advice of Rubinstein was sent to the conservatory at Vienna, where he graduated in 1880. In 1881 he gave a series of concerts in New York, which he repeated the next season through Germany and Russia. After studying for a while under Liszt he returned (1884) to the United States, and from 1888 to 1906 was director of the New York College of Music when he resigned in order to devote his entire time to private teaching. He is author of many compositions, but is best known as a successful teacher. He has written 'Systematic Course of Studies' (6 vols., 1892), and 'Piano Method for Beginners' (1907), which is in use in every part of the United States.

LAMBERT, Daniel, English citizen famed for his unusual corpulence: b. Leicester, 13 March 1770; d. 21 July 1809. Up to his 19th year he gave no indications of the remarkable stoutness which he afterward attained, being an enthusiastic lover of field sports and athletic exercises. He succeeded his father as keeper of the Leicester prison, exchanged an active for a sedentary life, and from this time rapidly increased in size till he became an object of public curiosity and attracted visitors from all parts of the country. He now resolved to turn his obesity to account, and in 1806 commenced an exhibition of himself in Piccadilly, London. He afterward exhibited himself in the principal towns of England. At the period of his death he was 5 feet 11 inches in height, weighed 739 pounds and measured 9 feet 4 inches round the body and 3 feet 1 inch round the leg. In diet he was remarkably abstemious, drank water only and never slept more than eight hours.

LAMBERT, Eugène Louis, French painter: b. Paris, 24 Sept. 1825; d. 1900. He studied under Delacroix and Delaroche and made his début at the Salon in 1847. He is famous chiefly as a painter of cats, the remarkable success of his 'Chat et Perroquet' (1857) largely influencing his choice of subjects in later years. He became a member of the Legion of Honor in 1874 and was awarded third medal at the Exposition Universelle in 1878. His work is familiar throughout the United States, and his 'Cat and Kittens' (1870) hangs in the Metropolitan Museum, New York. His 'Family of Cats' (1887) is in the Luxembourg. The charming illustrations for Cherville's 'Chiens et chats' (Paris 1889) are his work.

LAMBERT, Johann Heinrich, yō'hän hīn'rīh läm'bĕrt, German mathematician and philosopher: b. Mülhausen, in Alsace, 26 Aug. 1728; d. Berlin, 25 Sept. 1777. His father was a tailor in humble circumstances, and he was obliged to follow his father's employment. In this situation he spent the greatest part of the night in study and soon acquired a knowledge of mathematics, philosophy and the Oriental languages. At the early age of 19 he discovered

the so-called "Lambert's theorem." He became tutor to the sons of Salis, President of the Swiss Confederation, accompanying his pupils (1756–59) on a continental tour. In 1759 he was released from his duties, and in 1764 Frederick the Great appointed him to the head of the Architectural Council and made him a member of the Academy of Sciences. He enriched the transactions of various societies with his papers and treatises, all of which bear the stamp of eminent and original genius. Most of his mathematical pieces were collected in three volumes by himself. Philosophy, and especially analytic logic, are greatly indebted to him for his 'Neues Organon, or Thoughts on the Examination and Relations of Truth' (1764), and his 'Architektonik, or Theory of the First Simple Principles in Philosophical and Mathematical Knowledge' (1771).

LAMBERT, John, English soldier: b. Kirkby Malhamdale, Yorkshire, 7 Nov. 1619; d. 1683. He entered the army and had attained the rank of colonel in 1644, when he fought against the king at the battle of Marston Moor. He assisted Ireton in drawing up the "Heads of the Proposals," in 1647; was a brave, chivalrous and able soldier and the idol of the army, holding a place second only to Cromwell, was generous in his treatment of Royalist prisoners and took no part in the measures leading up to the execution of the king. He accompanied Cromwell into Scotland in 1650, specially distinguished himself at Dunbar and Worcester, and took the lead in the council of officers who gave the Protectorate to Cromwell. He subsequently opposed the Protector and was deprived by Cromwell of all his commissions, though a pension of £2,000 was allowed him for past services. When Richard attempted to assume the Protectorate Lambert came forward and became the head of the Fifth Monarchy Men, or extreme Republicans. In August 1659 he suppressed a dangerous Royalist rising at Chester, in the same year was member of Parliament for Pontefract, dismissed the "Rump" Parliament, governing with the aid of Council of Public Safety. In order to detach him from the Commonwealth suggestions were made by Royalists for a marriage between Prince Charles or his brother the Duke of York and his daughter. In 1660 he set out for the north to encounter Monk, but was deserted by his troops, seized and committed to the Tower, whence he soon escaped, again attempted to gather troops and was again arrested. At the Restoration he was excepted from the act of indemnity, brought to trial and condemned in 1662, but his sentence was commuted to banishment to Guernsey, from whence he was removed to Drake's Island, Plymouth Sound.

LAMBERT, John, English traveler: b. about 1775; d. unknown. He visited North America in 1806–09 under the auspices of the Board of Trade, with the object of introducing hemp-raising in Canada in order to render England independent of the hemp of northern Europe, with which supply Napoleon was interfering. This project was unsuccessful, but Lambert remained in America exploring "those parts made glorious by Wolfe and Washington" and studying "the effect of the new government." He published the results of his investigations a year after his return to England, 'Travels through Lower Canada and the United States of North America, 1806–08' (3 vols., London 1810). The work is written from a liberal standpoint and ran through three editions. He also edited and wrote a preface for the 'Essays' of Washington Irving (2 vols., London 1811), after which time nothing is known of him.

LAMBERT, Louis A., American Roman Catholic clergyman: b. Charleroi, Pa., 13 April 1835; d. 1910. He was educated at Saint Vincent's College, and the archdiocesan seminary, Saint Louis, and was ordained to the priesthood in 1859. He was chaplain in an Illinois regiment during the Civil War, was pastor at Cairo, Ill., 1863–69, and subsequently at Seneca Falls and Waterloo, N. Y.; was professor of normal theology and philosophy at the Paulist Novitiate. He founded the *Catholic Times* in 1874, and was its editor till 1880, and after 1894 was editor-in-chief of the New York *Freeman's Journal*. He was involved in a controversy with Robert G. Ingersoll, and his side of the controversy was published in a volume. The bishop of Rochester, Dr. McQuaid, refused to assign Dr. Lambert to a parish in his diocese, but was overruled by the Pope. Thereupon Dr. Lambert was made rector at Scottsville, N. Y., where he remained until his death. He published 'Thesaurus Biblicus'; 'Notes on Ingersoll'; 'The Christian Father'; 'Tactics of Infidels,' etc.

LAMBERT VON HERSFELD, German historian: b. probably Thuringia; d. Benedictine monastery at Hersfeld, 1088. He was finely educated, ordained a priest at Aschaffenburg, and is sometimes spoken of as Lambert of Aschaffenburg or Shafnaburg. He entered the Benedictine monastery at Hersfeld in 1058, and made a pilgrimage to the Holy Land, visiting many monasteries of his order. His fame rests upon his 'Annals,' a history of the world from its beginning until 1077. Lambert followed the work of other historians until 1040, when he emerged as an independent historian treating familiar contemporaneous history. The work is written in a beautiful Latin and the style is excellent. The writer is definitely antagonistic to Henry IV, whose visit to Canossa is brilliantly described, as is the battle of Hohenburg; and the work, naturally, is strongly in favor of the papacy. Until recently the fairness and accuracy of the 'Annals' have been unquestioned. The 'Annals' were first published in 1525, in the 'Monumenta Germaniae historica,' (Bänd III and V Hanover and Berlin 1826 fol.), and translated into German by Hesse (Leipzig; 2d ed., 1893). He is credited with the authorship of some of the monastery records, and with 'Carmen de Bello Saxonico,' edited by Pannenborg (Göttingen 1892), and by Holderegger (Hanover 1894). Consult Delbruck, H., 'Uber die Glaubwürdigheit Lambert von Hersfeld' (Bonn 1873), and Potthast, A., in 'Bibliotheca Historica' (Berlin 1896).

LAMBERTON, Benjamin Peffer, American rear-admiral: b. Cumberland County, Pa., 25 Feb. 1844; d. 9 June 1912. He was graduated at the United States Naval Academy in 1864, and was assigned to the United States steamer *America* for service during the remainder of

the Civil War. He was regularly promoted and at the outbreak of the Spanish-American War was chief of staff for Admiral Dewey. After the battle of Manila Bay he was advanced in rank seven numbers for "eminent and conspicuous conduct." He commanded Admiral Dewey's flagship, United States steamer *Olympia,* in 1898–99, served on the naval retiring board in 1900, and on the lighthouse board in 1900–03. He was in command of the South Atlantic squadron in 1903–04 and served at the Naval War College in 1904. He was chairman of the lighthouse board in 1905–06 and was retired 25 Feb. 1906.

LAMBERTON, John Porter, American editor and author: b. Philadelphia, 22 Oct. 1839; d. 26 July 1917. He was graduated from the University of Pennsylvania in 1858 and received degree of A.M. in 1861. He was teacher of classics in several academies (1859–80), but was obliged to retire from this field on account of the impairment of his hearing. Entering upon literary work he was associate editor of the 'American Supplement' to the Encyclopædia Britannica (9th ed.), and assisted in preparing the index to that edition of the Britannica. He was for five years (1891–96) in the editorial department of the J. B. Lippincott Company and revised 'Worcester's Dictionary' and other works of reference published by it. He was managing editor and chief writer of 'Historic Characters and Famous Events' (12 vols., 1896–98) and 'Literature of All Ages' (10 vols., 1898–99). To the series 'Six Thousand Years of the World's History' he contributed 'Literature of the 19th Century' (1900). He prepared an educational work on 'English Literature' (1903); revised and enlarged 'The Drama' of Alfred Bates (1905–07). In 1902 he became an assistant in the library of the University of Pennsylvania.

LAMBERTVILLE, N. J., city in Hunterdon County, on the Delaware River, the Delaware and Raritan Canal and the Pennsylvania Railroad, 16 miles northwest of Trenton. Water power is here furnished for extensive paper mills, rubber works, spoke factories, stone-quarries, flour mills, manufactories of pottery, hairpins, wire novelties and foundry and machine shops. The city was first incorporated in 1849, and under a charter of 1904 is governed by a mayor and council elected every two years. The city is located on the site of a ferry on the old route from New York to Philadelphia and was long known as Coryell's Ferry and later as Georgetown. The population is about 4,657.

LAMBERVILLE, Jean de, zhŏn dė lăn-băr-vēl, French missionary; d. Paris, 6 Feb. 1714. In 1671, as a member of the Jesuit order and under their direction, he settled in the Iroquois village of Onondaga. He had previously spent three years in Canada, and he now became active in cementing the alliance between the Indians and the French. Meanwhile Governor Dongan of New York was straining every nerve to win over the Iroquois League to the English, but without success. Lamberville, who was chaplain of the French garrison at Forts Frontenac (Kingston) and Niagara, was obliged to abandon his post by the risk he ran when the Iroquois delegates were treacherously seized at Fort Frontenac to which they had repaired on receiving pledges of a peaceful conference (1687). In 1691 he was at Sault Saint Louis. He returned to France in 1692 and for the next 20 years was procuror for the Canadian mission.

LAMBESSA (anc. **LAMBÆSA**), Algeria, a village in the department of Constantine, seven miles southeast of Batna and 17 miles west of Timgad. The town owed its ancient importance to a Roman military camp founded there under Hadrian 123–129 A.D. The modern village has an agricultural colony founded in 1848 and a large convict establishment built about 1850. The village is interesting chiefly because of its historical remains. While vandalism has destroyed many of these, those still existing are cared for by the Service des Monuments Historiques. There are triumphal arches erected to Septianus Severus and Commodus; the capitol or temple dedicated to Jupiter, Juno and Minerva, which has a portico of eight columns; a splendid building in the old Roman camp dating from 268 A.D.; cemeteries to the north and east with the stones still standing, although those to the west of the village have had their stones removed for building purposes. There are, besides, remains of an amphitheatre, arsenal, baths, residences, an aqueduct, a single standing column of the temple to Æsculapius and some fine statues and mosaics. The ruins of the town have yielded many inscriptions, of which Renier edited 1,500 and 4,185 are in the 'Corpus Inscriptionum Latinarum.' More than 2,500 of the inscriptions relate to the Roman camp. Consult Renier, L., 'Inscriptions romains de l'Algérie' (Paris 1855); Graham, A., 'Roman Africa' (London 1902); Boissier, 'Roman Africa' (New York 1899); Gsell, S., 'Les Monuments antiques de l'Algérie' (Paris 1901).

LAMBETH, a municipal and parliamentary borough of London, on the right bank of the Thames, opposite Westminster. Area, 4,080 acres. Lambeth has been famous for its potteries for over 200 years; soap and chemicals are the other chief manufactures. Lambeth Palace has been the official residence of the archbishops of Canterbury since the end of the 12th century. The oldest part remaining is the Early English Chapel. The so-called Lollard's Tower dates from 1440. The palace contains a fine series of portraits of the archbishops and possesses a magnificent library containing a valuable manuscript collection. Lambeth suspension bridge crosses the river below the palace. Astley's Circus and Vauxhall Gardens, at one time famous resorts, were located here. The borough for parliamentary purposes is divided into four constituencies, each returning one member. Pop. 298,058. Consult Allen, 'History of Lambeth' (1826); Hill, 'Electoral History of the Borough of Lambeth' (1879); Honey, 'Origin and Duties of Overseers of Lambeth for 300 Years' (1900); Tanswell, 'History of Lambeth' (1858).

LAMBETH ARTICLES, in English ecclesiastics, a name given to a statement of certain doctrines of predestination, justification and free-will, drawn up at Lambeth Palace in 1595 by William Whitaker, master of Saint

John's College, Cambridge, and other Calvinists. They were approved by Archbishop Whitgift, but disapproved by Queen Elizabeth. Consult Curtis, 'History of Creeds and Confessions' (Edinburgh 1911).

LAMBETH CONFERENCE, the name given to periodical assemblages of Anglican bishops at Lambeth Palace, near London, England. The idea of a pan-Anglican conference was first mooted by Bishop Hopkins of Vermont in 1851, and was revived by Bishop Lewis of Ontario during what was called the Colenso schism in 1866. The first conference was summoned by Archbishop Longley in 1867, at which 76 bishops were present. The second conference held in 1878 was attended by 100 bishops. In 1888 there were 145 present, in 1897, 194, and 241 in 1908. The conference does not legislate or formulate Church doctrines, but finds profit in discussing serious ecclesiastical problems. The most important practical outcome of the conference has been the publication of what is called the *Lambeth Quadrilateral* as a basis for Christian unity, embracing the scriptures, the Nicene and Apostles' Creed, the two sacraments and the historic episcopate. The conference will continue every 10 years. Consult Davidson, 'The Lambeth Conferences of 1867, 1878, and 1888' (London 1889); 'Conference of the Bishops of the Anglican Communion' (London 1897, 1908).

LAMBINUS, Dionysius (DENYS LAMBIN), French scholar: b. Montreuil-sur-Mer, Picardy, 1516; d. Paris, September 1572. He was educated at Amiens and in Italy, and from 1561 was professor of Latin and Greek at the College Royal, Paris. His lectures were often interfered with by illness but his fame was secured through his editing of classical authors. His work was characterized by conservatism and profound scholarship and is still in use. His principal editions are 'Horace' (1561); 'Lucretius' (1564); 'Cicero' (1566); 'Cornelius Nepos' (1569); 'Demosthenes' (1570); 'Plautus' (1576). Consult Sandys, 'History of Classical Scholarship' (Vol. III, Cambridge 1908).

LAMBKILL, or CALF-KILL. See MOUNTAIN LAUREL.

LAMBROS, lăm'brôs, **Spyridion,** Greek historian: b. Corfu, 21 April 1851. He studied at Athens, Berlin and Leipzig, and in 1882–85 he was inspector of public schools under the Hellenic Ministry of Education. He was appointed professor of ancient history in the University of Athens in 1887 and was rector there in 1903–04. He has made numerous translations of English and German works into Greek; became general secretary of the Committee on Olympic Games in 1903; and edited a Greek periodical, *Σλληνομνήμων*, dealing with Greek literature as recorded in the Orient. His publications include 'Collection de romans grecs en langue vulgaire et en vers' (1880); 'History of Greece' (6 vols., 1886–1908); 'Catalogue of the Greek Manuscripts on Mount Athos' (1895–1901); *''Αργυροπούγεια'* (1909).

LAMBRUSCHINI, lăm'broo-skē'nē, **Luigi,** Italian cardinal and politician: b. Genoa, 16 May 1776; d. Rome, 12 May 1854. At an early age he entered the order of Barnabites; became archbishop of Genoa in 1819; and from 1827 until the revolution in 1830 he was nuncio at Paris. He was created a cardinal 30 Sept. 1831, and in 1836 succeeded Bernetti as Secretary of State under Pope Gregory XVI. It was a trying period and Lambruschini, although an able man, did little to improve matters. He bitterly opposed modern changes, even to railways and illuminating gas, and was credited with a too liberal use of spies and prisons. He fought valiantly for temporal control; and in the quarrel between the bishop of Cologne and Prussia he wrote the famous allocutions. He was made bishop of Sabina in 1842 and of Porto in 1847. The Roman Revolution of 1848 forced him to flee and eventually he joined Pius IX at Gaeta, returning to Rome with him in 1850. He wrote 'Opere Spirituale' (1838); 'Sull' immacolato concezione' (1843), etc.

LAMB'S CLUB, The, a club founded in New York, Christmas, 1875, "for the purpose of social recreation and the cultivation of musical, literary and artistic talent." The club was incorporated 10 May 1877 and is organized on the order of the Lamb's Club of London. It strictly limits its non-professional membership, and while its professional members include musicians, artists and authors it succeeds in maintaining its theatrical traditions. The Lambs' Gambol, an entertainment comprising the notable features of the season's plays presented by the principals, tours the larger cities each spring and is an event of prime importance in the theatrical world. The Gambol's financial receipts paid for the comfortable building which houses the club at 128 West 44th street, New York.

LAMB'S LETTUCE. See CORN-SALAD.

LAMB'S-QUARTERS, a roadside "pigweed" (*Chenopodium album*). See GOOSEFOOT.

LAMECH, name of two scriptural personages mentioned in the book of Genesis. (1) Descendant of Cain. (2) Son of Methusaleh, and father of Noah, lived 777, and died five years before the Flood.

LAMENNAIS, lăm'nā', **Hugues Felicite Robert de,** French religious and political author: b. Saint Malo, 19 June 1782; d. Paris, 17 Feb. 1854. His father was ennobled in 1788 for public services. His mother died when the boy was five years old, and he was sent to live with his uncle at Dinan. There he found ample opportunity for study in the splendid library of his uncle, where he became steeped in the philosophy of the century. With his elder brother Jean-Marie, he published in 1808 'Reflexions sur l'état de l'Eglise en France pendant le XVIIIeme siècle et sur sa situation actuelle,' which caused wide discussion and was suppressed by the police. In 1809 he entered the priesthood, but it was not until 1816 that he finally accepted ordination at Vannes. In the intervening years, he had written an effective treatise on 'La tradition de l'institution des évêques en France' in which he advocated the creation of bishops without papal sanction. During the Hundred Days he escaped to England, fearing the Imperial police, and there became familiar with the policies and thought of that country. After his ordination, Lamennais devoted himself with great energy and zeal to the service of the Catholic Church. In 1817 he began the pub-

lication of his monumental work 'Essai sur l'indifference en matière de religion' (4 vols., 1817–24; English trans. by Stanley, London 1898). With the fervor of intellectual conviction he advocated a strict restoration of the original Catholic doctrine. He denounced the spirit of individual inquiry which Descartes, Rousseau and Luther had stimulated to the detriment of the church and the state. Politically he favored the submission of temporal to spiritual authority and advocated a form of democracy deriving its power from a theocracy. Pope Leo XII at first approved of his religious philosophy, and invited Lamennais to visit Rome where he was graciously received and offered a place in the Sacred College. He preferred, however, to return to France, where he already had a large following, especially among the younger clergy, and with Chateaubriand he soon became known as a political power. His essays appeared in the *Conservateur* for a time, but the monarchical tendencies of de Villèle, one of the chief owners of the paper, soon alienated his sympathies, and he began to publish two independent journals, *La Drapeau blanc* and *La Memorial Catholique*. From 1825–26 he was also occupied with the publication of 'De la religion considerée dans ses rapports avec l'ordre civil et politique.'

At La Chênaie, Lamennais with a brilliant following, including among its ranks Lacordaire, Gerbet, Rohrbacker, Salmis, de Carné, and later de Guérin, worked enthusiastically for his great reforms. The organ of this group was the journal *L'Avenir*, which took as its motto, "Dieu et Liberté"; and the body of active sympathizers and workers for the cause of theocratic democracy was known as the "Agence generale pour la defense des intérêts catholiques." The liberal tone of the paper offended a great number of the conservative clergy, and Lamennais resolved to go to Rome to take the matter up with the Pope. Accordingly, he suspended publication, and with Lacordaire set out for the Holy City in 1831 to meet Gregory XVI. They were, to their surprise, coolly received by the Pope, who asked them to drop the matter. All obeyed promptly except Lamennais who still hoped for a favorable reception; but when further letters of the Pope indicated clearly his concessions to temporal authority, Lamennais abandoned hope. Shortly after his departure, the encyclical "Mirari vos" was sent out by Rome in which Gregory formally denounced the theories set forth in *L'Avenir* and propagated by the "Agence." Broken-spirited, the party returned to La Chênaie where, in 1834, Lamennais wrote his stirring answer, 'Les Paroles d'un croyant,' which he sent to Sainte-Beuve for publication. Gregory made reply in the encyclical "Singulari nos" (1834).

It was not long before Lamennais rallied his force and his followers and began to direct his energy toward the championship of the rights of the people alone. In support of "la liberte et la humanité" he wrote 'Les Affaires de Rome' (1836); 'Le Livre du peuple' (1837); and 'Le Pays et le gouvernement' (1840), for which he was imprisoned for a year at Sainte-Pelagie, where he wrote 'Une Voix de prison.' This was followed in 1843 by 'Amschaspands et Darvands,' 'Le Deuil de la Pologue' (1846), and numerous other pamphlets and treatises. In 1840 he collected the articles which had appeared in *L'Avenir* and published also a remarkable work in three volumes, 'Esquisse de philosophie.' The third volume entitled 'De l'Art et du beau' still remains one of the finest of discussions on æsthetics. He was recognized as one of the leaders of the Liberal Democratic party, and in defense and support of the Revolution of 1848 published *Le peuple constituant*, which, like a later publication, *La Revolution democratique et sociale*, was forced to an early death through lack of financial means. He was chosen a member of the Constituent Assembly where he sat with the Extreme Left. His last years were occupied with the translation of Dante's 'Divina Commedia.' He refused to accept a church burial, and was interred without any religious ceremony.

Several volumes of posthumous works and letters have been published by Forgues (1858); H. de Courcy (1862); A. Blaize (1866); by A. du Bois de la Villerabel (1866); and M. A. Rousel (1892). Incomplete collections of his works have been made, one in 10 volumes (Paris 1836–37); and another in 10 volumes (Paris 1844). Consult also Blaize, A., 'Essai biographique sur M. de Lamennais' (1858); Brunetière, F., 'Nouveaux essais sur la litterature contemporaine' (1893); Janet, Paul, 'La philosophie de Lamennais' (1890); Renan, E., 'Essais de morale et de critique' (1857); and Sainte-Beuve, 'Portraits Contemporains' (1832) and 'Nouveaux Lundis.'

LAMENTATION FOR THE DEAD. See FUNERAL RITES.

LAMENTATIONS, Book of. See JEREMIAH, LAMENTATIONS OF.

LAMETH, lą'mĕt', Charles Malo François, COUNT DE, French general and politician: b. Paris, 5 Oct. 1757; d. Poutoise, 28 Dec. 1832. He served in the French expeditionary force which aided the American Revolutionists, was aide to Rochambeau and at the battle of Yorktown received serious wounds. He was deputy to the States-General in 1789; and in 1791 he was elected to the National Assembly by the nobility. His opposition to Mirabeau resulted in his arrest and he fled to Hamburg where he remained until 1800. He returned to France under the consulate, fought under Napoleon and was made governor of Würzburg. In 1814 he joined the Bourbons, and in 1829 succeeded his brother, Alexandre, as deputy.

LAMIA, a mythical queen of Libya, who, on being robbed of her own children by Hera, devoted her life to strangling and eating children. In later story Lamia was a vampire who seduced and then sucked the life-blood of young men. As a vampire she appears in Goethe's 'Die Braut von Korinth' and Keats' 'Lamia.'

LAMIA, (Turkish Zeituni or Zituni), city of Greece, capital of the provinces Phthiotis and Phosis, near the head of the Gulf of Lamia, 28 miles southeast of Pharsalos. It is situated upon the side of a hill crowned by a mediæval fortress, and has remains of the ancient city from which the Lamian War (323 B.C.) takes its name. On the south of the gulf is the Pass of Thermopylæ. The modern city has a

bazaar, gardens and a mosque. Its principal industry is the raising of camels. The city resumed its ancient name after Turkish rule was thrown off. In its more recent history is famous the nearby bridge of Alamanna, where, in 1821, 700 Greeks commanded by Diakos and the bishop of Salona withstood the progress of a Turkish army. Pop. estimated 8,000.

LAMIA. This narrative poem in couplets was written by Keats in 1819 and published, together with 'Isabella' and 'The Eve of Saint Agnes' in 1820. Keats founded his poem on an incident given by Burton in the 'Anatomy of Melancholy' from Philistratus, concerning the marriage of a Corinthian youth to a serpent-woman or Lamia. At their wedding her real nature is detected by the philosopher Apollonius, and on being denounced she vanished. The story belongs to a familiar type of folklore incident, commonly known as the "swan-maiden motive," of which Coleridge's 'Christabel' is another example in literature. Keats does not, like Coleridge, emphasize the supernatural suggestiveness of his material, but is interested rather in its picturesque and emotional values. He prefaces the meeting of Lamia and Lycius by a brilliant description of the serpent and an account of her transformation by Hermes into a woman. Lycius is enthralled by Love and the enchantment endures until the fatal desire comes upon him to marry the maiden in the presence of his friends. The close of the poem is made to illustrate Keats' favorite idea of the antagonism between the life of feeling and abstract reflection. Apollonius, who comes uninvited to the feast, represents the chilling philosophy which destroys the illusions of poetry and romance. The poet's sympathies are all with the enamored lovers. In style and versification 'Lamia' shows traces of the influence of Dryden. The rich sensuousness of 'The Eve of Saint Agnes' here takes on an almost metallic brilliancy, but the poem is little inferior as a work of art. For references see article ODE ON A GRECIAN URN.

JAMES H. HANFORD.

LAMINÆ. See BED.

LAMINARIA, an important genus of brown seaweed of the family *Laminariaceæ,* prolific in the colder coast waters of the temperate zones. The species has no definite leaves, the thalius forming a ribless expansion, flat and ribbon-like, either simple or cleft. A few species are edible, while others are employed as fertilizers and in making kelp. Among them *L. bulbosa* and *L. digitata,* which attain immense length, were formerly important in the production of carbonate of soda, but the discovery of common salt as a more accessible and prolific source of supply has largely superseded their use. *L. potatorum* is a native of the Australian coasts and furnishes the natives with food and material for domestic utensils and implements. *L. bucinalis,* a native of Cape of Good Hope, yields iodine, while several Japanese varieties are edible.

LAMINATION (from Lat. *lamina,* thin plate), the division or divisibility of rock into thin layers or sheets. Lamination occurs chiefly in rocks composed of fine-grained materials and evidently is produced by deposition in water and variation in the nature of material deposited. The term usually is limited to stratified rock, although some geologists apply it to the tabular structure of igneous crystalline rocks.

LAMMAS DAY (M.E. hlammæsse, "loaf-mass") in the calendar, the 1st day of August, so called perhaps from the custom which formerly prevailed among the tenants who held lands of the cathedral church in York, England, of bringing offerings of the first fruits of the harvest in the form of wheat loaves on that day.

LAMMASCH, lą'mąsh, **Heinrich,** Austrian jurist: b. Seitenstetten, 1853. He studied at the University of Vienna and was appointed law lecturer there in 1878. In 1885–89 he was professor at the University of Innsbruck, and in 1889 he became professor of law at Vienna. He entered the Austrian Upper House in 1899 and became leader of the Conservatives. He represented Austria at the first Hague Peace Conference and in 1911 was president of The Hague Tribunal. He was an arbitrator on the Venezuela case, 1903–04; and presided over the boards deciding the Muscat case, 1905, and the Newfoundland fisheries controversy in 1910. He has published 'Moment objektiver Gefarhlichkeit im Begriffe des Verbrechensversuche' (1879); 'Diesbstahl und Beleidigung' (1893); 'Rechtskraft internationaler Schiedssprüche' (published by the Nobel Institute, 1913); 'Schiedsgerichtsbarkeit' (1914), etc.

LAMMENS, lą'mäńs', **Henri,** Belgian Orientalist: b. Ghent, 1862. He entered the Society of Jesus, was later appointed professor of Arabic literature in the Instituto Biblico, Rome, and has specialized in the study of Oriental history, Syrian geography and Mohammedanism. His works include 'Fatima et les filles de Mahomed' (Rome 1912); and 'Le berceau d l'Islam; l'Arabic occidentale a la veille de l'hĭgir' (Vol. I, Rome 1914).

LAMMERGEIER, lăm-mēr'gi-ēr, the largest of European eagles (*Gypaëtus barbatus*), often called griffon-vulture because it frequently feeds on carrion, especially bones abandoned by other animals, which it has power to break, or carries to a great height in the air and then lets fall; it does the same with tortises, which form an important part of its fare in some countries. The lammergeier is a bird of the mountains and deserts of southern Europe (where it has now been nearly exterminated), northern Africa and southern Asia; it builds a great rude nest on some mountain ledge and lays a single brown-blotched egg.

LAMON, lą-mŏn, **Ward Hill,** American biographer: b. 1828; d. Martinsburg, W. Va., 7 May 1893. He was the law partner of Abraham Lincoln at Springfield, Ill., and after the latter's election as President became his private secretary and was appointed by him marshal of the District of Columbia. He published 'Life of Abraham Lincoln, from His Birth to His Inauguration as President' (Boston 1872); 'Recollections of Abraham Lincoln.'

LAMON, lā-mōn', **Bay of,** a landlocked bay on the eastern (Pacific) coast of Luzon, Philippines, dividing the southeastern peninsula from the main part of the island. The island of Alabat and smaller islands make an inner bay on the south. The bay is bounded by the prov-

inces of Infanta, Laguna and Tayabas on the south and west, and by the provinces of Tayabas and Ambos Camarines (Norte) on the south and east. On the northwest coast of the bay is the port of Lampón, Infanta, which was important in the latter part of the 16th century and the 17th century as the harbor of the Spanish galleons between Manila and New Spain, it being thought a safer way of communication than the straits of San Bernardino.

LAMONT, lą-mŏnt, **Daniel Scott,** American politician: b. Cortlandville, N. Y., 9 Feb. 1851; d. Millbrook, N. Y., 23 July 1905. He was educated at Union College, Schenectady, entered journalism at Albany, became a political correspondent, in 1883–89 was private secretary to Grover Cleveland, was later in business, and in 1892–96 was Secretary of War in Cleveland's second administration. In 1897 he was elected vice-president of the Northern Pacific Railway Company.

LAMONT, lą-mŏnt', **Johan von,** Scottish-German astronomer and magnetician: b. Braemer, Aberdeenshire, 13 Dec. 1805; d. Munich, 6 Aug. 1879. At an early age he was sent to the Scottish monastery in Regensburg to be educated and so far as is known he never returned to his native country. He became assistant at the observatory of Bogenhausen near Munich in 1828 and was its director from 1835 until his death. From 1852 he was also professor of astronomy at the University of Munich. His most notable contributions to astronomy consist of 11 zone catalogues of 34,674 stars; his measurements of nebulæ and clusters; and his observations of the satellites of Uranus resulting in the determination of its mass. He was instrumental in the establishment of magnetic observatory at Bogenhausen in 1840; made extensive magnetic surveys of Germany, France, Spain and Denmark; announced in 1850 the magnetic decennial period, and in 1862 made his discovery of earth currents. Most important among his writings is the standard work, 'Handbuch des Ermagnetismus' (Berlin 1849).

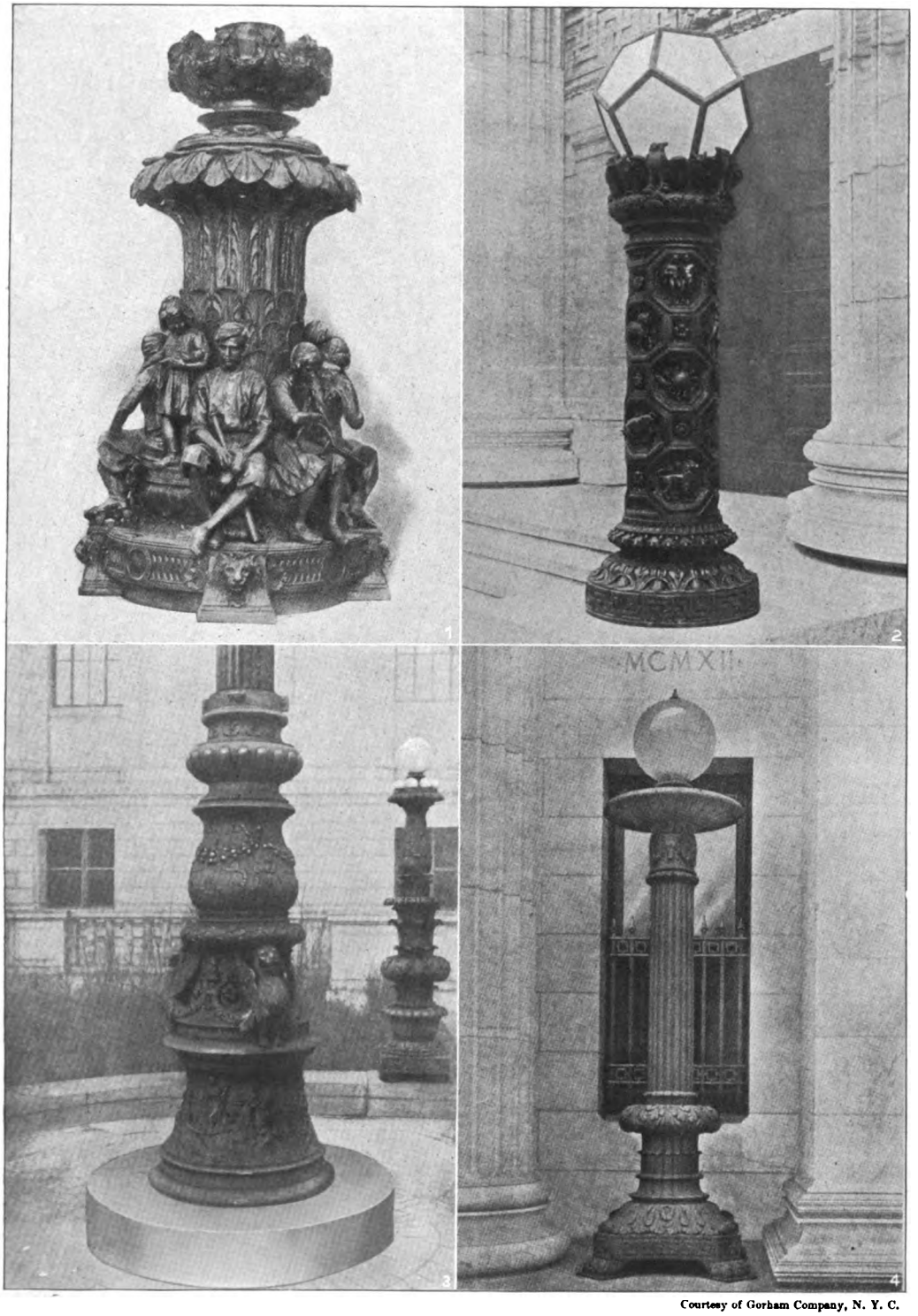
LAMORICIÈRE, lą'mō'rē'syār', **Christophe Léon Louis Juchault de,** French general: b: Nantes, 5 Feb. 1806; d. Prouzel, 11 Sept. 1865. He entered the engineers in 1828, served in the Algerian campaigns from 1830, and in 1843 became a general of division. He rendered important service at the battle of Isly, 14 Aug. 1844; acted temporarily as governor-general of Algeria, and in 1847 secured the surrender of Abd-el-Kader, thereby terminating the war. Upon his return to France he was elected to the Chamber of Deputies and served as Minister of War under General Cavaignac. A bitter opponent of Louis Napoleon, he refused to give allegiance after the *coup d'état* of 2 Dec. 1851 and was exiled. He became commander of the papal army in the Italian campaign of 1860, but was defeated and forced to surrender his army at the battle of Castelfidardo, 18 Sept. 1860. The remaining years of his life were spent in retirement in France.

LAMOUREUX, Charles, French violinist and orchestra leader: b. Bordeaux, 20 Sept. 1834; d. Paris, 21 Dec. 1899. He entered the conservatory at Paris in 1850 and in 1853 became first violin at the opera. He founded the 'Société de l'Harmonie Sacrée,' and gave the first performance in Paris of Handel's 'Messiah' in 1873. In 1876 he became leader of the orchestra at the Opera Comique and in 1881 he inaugurated a series of Wagnerian concerts. He was twice leader of the orchestra at the Paris Opera and his visits to London were the occasion of many successful concerts at Queen's Hall. He was notably successful in his efforts to popularize the music of Wagner. The *Concerts Lamoureux* were continued in Paris after his death by his son-in-law, Chevillard.

LAMP, any contrivance which through the formation of its parts affords a means of producing light, and sometimes heat, by the combustion of oils, fats or inflammable fluids, with the aid of a wick, which, by capillary attraction, conveys the substance burned to the flame point. By modern adaptation of the word many appliances for producing light by gas or electricity are designated as lamps, and the illustrations of lamp standards that accompany this article show the high pitch of artistic excellence to which they have been brought. The history of the lamp, however, is interesting, especially as the development of the modern oil lamp and of general illumination can be said to date only from about 1840. Man ignorant of fire is unknown; therefore, the use of the burning brand as a torch may be regarded as coeval with the race, and the torch as the progenitor of the succeeding lamp. Considered archaically the primitive lamp was a very simple device. An unworked stone, having a natural concavity, a sea shell, or the skull of an animal, constituted the earliest forms. A bit of moss or a twist of vegetable fibre served as a wick. Fat, grease or fish oil furnished the illuminant. The introduction of the lamp marked the first stage of man's advancement toward civilization, and may, therefore, be appropriately considered as a figure or symbol on the dial of time pointing to the dawn of his intellectual awakening. When, or where, or by what people the first lamps were made cannot now be determined. Recent archæological discoveries in the ruins of the long-buried cities of the Mesopotamian plain, Assyria, have revealed many terra-cotta lamps of a variety of forms, and of good workmanship, that were in common use 7,000 or 8,000 years B.C. It would be an unwarranted assumption to assert that these well-developed creations denote the beginning of the lamp. Stone lamps have been found that are undoubtedly of great antiquity, but this fact alone does not necessarily class them as palæolithic; they are simply prehistoric, and of an age that cannot be definitely determined. The so-called Stone Age determines so little that is of real chronological value that classifications in archæology cannot always be wisely made upon data thus furnished. French archæologists have within a few years recovered from the lakes of Switzerland bronze lamps that were in use by the lake-dwellers at a period late in the Lacustrian Age. These are without doubt the most ancient metal lamps yet discovered.

Early Examples.— Whether the first emigrants from Asia into ancient Greece found the Pelasgic races using lamps, or whether the invaders brought the art of lamp making with them, neither legend nor tradition has left even a mythical answer. In our researches in lamp

LAMP STANDARDS



Courtesy of Gorham Company, N. Y. C.

1, 2 Lamp standards at entrances to New York State Educational Building, Albany, N. Y.
3 Flag pole bases and lamp standards, Central Library, Saint Louis, Mo.
4 Lamp standard, Peoples Savings Bank, Providence, R. I.

archæology we can at the best but work our way backward, from the known to the unknown, from the ascertained facts to that dim, mysterious darkness of remote antiquity where all traces of chronology are lost, and where our conclusions must be largely sustained by deductions drawn from analogical reasoning. The poems ascribed to Homer, 950 B.C., contain all that we know of the manners and customs of early Greek society. He speaks of the "Festival of Lamps," and makes frequent mention of the torch. The Greek and Roman torch was often simply a terra-cotta, or bronze, lamp-shaped device secured to a staff. The so-called "grease-pot-lamp" of Egypt is without doubt more ancient than the oldest lamp of Greece, and the terra-cotta lamps of Babylonia are also thousands of years older. Egypt as a nation was on the decline when the history of Greece began. Assyrian records found on clay tablets proclaim a nation with a remoteness of antiquity as yet undetermined. Among the many ancient relics discovered in the ruins of the Babylonian cities have been terra-cotta lamps that closely resembled those of early Greece. This similarity of configuration between the earliest examples discovered and those of Greek make of a period that was perhaps midway between the first Olympiad, 776 B.C., and the beginning of the Christian era is remarkable. Only the simplest essentials are represented. A shallow, saucer-shaped oil or fat reservoir being the most primitive of terra-cotta lamps. Then comes the oval in shape, with a slight prolongation of the rim into a short, narrow rostrum, or wick support, and the formation of a rudimental handle. Then the oval-shape with the reservoir enclosed, and one or two wick supports. These constitute the types that were essentially common to all Eastern lands. The later Greek and Roman lamps, both terra-cotta and bronze, are remarkable rich in ornamentation, and artistically graceful in form. These constitute a division that separates the crude primitive from the finished product. The earliest terra-cotta lamps were made in one piece, and baked without glazing. Later Greek and Roman terra-cotta lamps were made in two principal parts, the "*crater*," or oil reservoir, and the "*discus*," or covering for the reservoir. Each of these parts were joined together after being molded, and then baked. The ornamentations were generally confined to the "*discus*," and were called the "*limbus*." The "*nasus*," or wick support, as well as the "*ansa*," or handle, were most frequently made separately and carefully attached to the body of the lamp before baking. The "*discus*" had a small circular opening near the centre through which the lamp could be filled. Many of the better lamps had the maker's name, and often his private mark, stamped on the bottom. Large terra-cotta lamps were frequently made with two, three and sometimes six or even 12 "*nasi*." The lamp with "*nasus*" for one wick was called a "*monomyxos*," and that for two wicks a "*dimyxos*," and so on. The Greek and Roman bronze lamps were made in an almost endless variety of forms, and were often beautiful and artistic to a marked degree. Plain iron lamps were used by the common people at a later period. They were either cast or forged in a single piece, and were mostly ectypes of the more artistic and costly terra-cotta and bronze lamps, but were without decorations. The study of the ancient lamp maker was devoted alone to the external form of his wares. Grace, beauty and elegance, as expressed in outlines and decorations, were his chief concern. No attempt was made to improve the light. The pale, smoky, flickering flame continued to shed its uncertain light from the massive and costly silver candelabrum of the wealthy just as it had for untold ages from the simple stone and terra-cotta lamps of their ancestors. Etruscan terra-cotta and bronze lamps so closely resembled those of early Greek make that a separate description is not required in this article. The chief characteristic, however, that distinguished the true Etruscan pottery from that of Greece is the strong coloring that was applied to the former. What was true of the art of lamp making in Greece was also true of the rest of the civilized world, for it was more than 17 centuries after the Christian era before any real improvement was introduced in lamp construction.

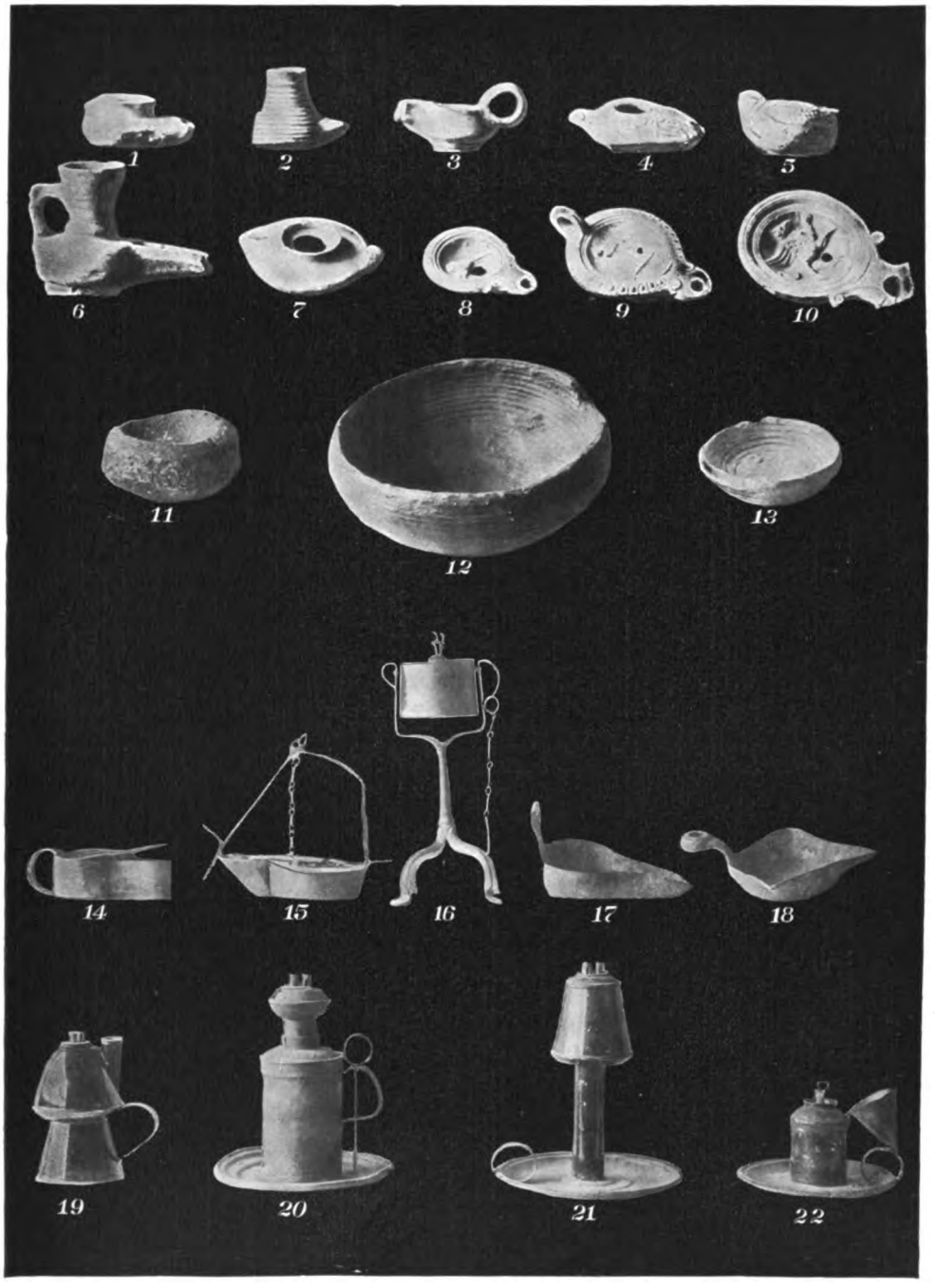
The Inventive Age.— Prior to 1783 many lamps and illuminating appliances had been introduced, but there was little if any improvement in the light afforded, or marked advancement in the construction or mechanical arrangement of the parts designed to increase the brilliancy of the flame. The first real improvement was the introduction of the flat, woven, ribbon-like wick, and the securing the wick in a close-fitting support. This arrangement permitted only a small surface of the wick to be exposed to the flame, and the wick being narrow the flame came in contact with the centre as readily as the outward parts and thus most of the free carbon was consumed, consequently there was less smoke than in the old style of loose wick. M. Legers of Paris introduced this improvement in 1783. To this was attached for the first time a spur-wheel, which by rotating adjusted the wick, thus regulating the flame. The same year M. Argand, the Swiss chemist, introduced his improvement in burners, which consisted of a tubular wick attached to a tube which extended through the oil reservoir and opened into the base of the lamp, thus affording a means of centre draught, which supplied an abundance of oxygen to the flame and created sufficient heat to consume all of the carbon and so prevented the escaping of smoke. This was truly the beginning of a new era in lamp making, for the art now entered upon what may be designated as "the inventive age of the lamp." Science and invention now came to the aid of the artisan. Principles involving an understanding of the laws of combustion and the science of light were applied to the construction of illuminating devices. The result was more light and better light. Argand's epoch-making invention related wholly to his improved burner. His first lamps were simply huge oil reservoirs with his new burner attached to the top. He used sheet iron chimneys formed with a hood opening over the flame. The use of glass chimneys with the Argand burner came about purely by accident. A workman in attempting to heat a bottle over the flame cracked off the bottom, and because the glass had become too hot for him to hold he momentarily placed it over the burner. The result was suprising; the brilliancy of the flame was not only increased but the light became steady and in every way

superior to that produced with a sheet iron chimney. The brilliancy of the light on the top of the huge reservoir made a wide shadow. To overcome this was a problem that was finally solved by a German lamp-maker, who produced a model in which the burner was secured to the end of a long neck or rostrum, very much like the present so-called German student lamp. The removing of the light away from the great reservoir not only reduced the shadow but afforded a more ready means of supplying the oil to the wick uniformly. In 1800 Carcel introduced his ingenious lamp which was provided wih a clock-work device, which operated a small pump, raising the oil from the base of the lamp to the wick-holder, thus keeping the wick uniformly submerged in the oil. This contrivance was too costly to come into general use, and was confined mostly to lamps used in halls and large rooms. Many lamps were offered by makers that were designed to burn crude, heavy whale oil, and others in which lard oil was consumed. Lard oil lamps were inconvenient in cold weather, for the oil would become solid. To overcome this several devices were invented. Perhaps the most successful was the lamp with a copper tube, the upper end of which was between two wick tubes, while the lower end passed through the oil to the bottom of the lamp. Copper being a good conductor of heat, the oil was thus kept in a liquid state while the lamp was burning. For many years lard oil was the only illuminant used in the great lamps of the lighthouses of the world. It was not until after 1880 that burners for lighthouse lamps had been constructed that would satisfactorily consume kerosene oil. Up to about 1800 but few small, portable lamps had been made. Nearly all the appliances so far introduced for domestic illumination were large, so-called, table lamps, and mural lamps. English manufacturers first made small hand lamps of tin, brass and pewter. These were mostly lard or whale oil burners, with a single wick tube. In the whale oil lamps the wick tube was round, in the lard oil lamps the flat, woven ribbon-wick was used, the wick being moved up and down in the lard oil lamps by a spur-wheel. In the whale oil lamps a small aperture in the upper part of the wick tube was provided, through which "a prick" could be inserted by which the wick was pricked up or down. In the large and important field of research and experiment in domestic illumination, American genius and skill very early took a prominent part.

Lamps in America.— Before proceeding to the introduction of a description of early American inventions relating to lamps and lighting appliances, it will be interesting to briefly notice what may be truly designated as the original American lamp. There has never been found among the remains of the mysterious mound-builders of the Western Continent any utensil that could be rightly regarded as a lamp. The North American Indians, who were found inhabiting the country on the arrival of the first Europeans, did not possess a lamp. The pine torch was their only means of artificial illuminating. The one lamp that can claim the distinction of being really American is the stone lamp of the Eskimo. This is usually a shallow vessel of stone, most frequently of soap-stone, sometimes bone, clay, wood and the skull of an animal is used. The oil of the seal, walrus and whale is burned in these rude lamps, dry moss serving as a wick. These lamps also serve as stoves, for they are used for cooking and warming. Without these simple lamps human life could not be maintained in the inhospitable regions these strange people inhabit.

The first lamps used in the Plymouth Colony were of Dutch make, and were called by the English emigrants Betty lamps (German, *Besser-better*). The few lamps that the Pilgrim fathers brought with them in the *Mayflower* on her memorable voyage were of this class. They are of iron, either forged from a single piece or were cast of gray, coarse iron. The earliest, of these were known as the open Betty, or "Slot lamp." Then followed the Betty with a top, one part of which was formed as a hinged lid. The wick support was an angular, half round iron secured to the inside bottom of the lamp. There was an upright handle at the back, to which was attached, by a link, a pointed hook, the point of which extended beyond the crook. This was used to suspend the lamp from the high back of the rush-bottom chair, or the point was thrust into the crevice between the great stones of the side of the open fire-place. The Betty was pear-shaped, flat on the top and bottom. This form was sometimes made in brass, but rarely was any attempt made at ornamentation. These lamps were in use in some parts of the New England colonies as late as 1790. Prior to 1680 all lamps used in the American colonies were imported, mostly from England. In 1680 a tinsmith of Newbury, Mass., began the manufacture of tin Betty lamps. These, after Newburyport was separated from Newbury, became known as Newburyport Bettys. Later these lamps were made in Rivermouth (Portsmouth, N. H.) and were called Portsmouth Bettys. In 1720 a few pewter and brass lamps had been made by small manufacturers at Salem, Mass., and Providence, R. I. These were heavy and extremely inconvenient to be carried about. Among the earliest makers of pewter lamps and candlesticks in the New England colonies was Richard Graves, a pewterer who came from England, where he had learned the trade, or, as it was then called, the art. He came first to Boston, but moved to Salem, Mass., where he long worked at his business, and brought out many fine goods in his line. Henry Shrimpton of Boston was also a maker of fine pewter lamps, and his beautiful lamps and candlesticks graced many of the grand old colonial homes. Among the earliest American experimenters in lamp construction and inventors of improved burners was that marvelous investigator, philosopher, statesman and inventor, Benjamin Franklin (q.v.). Not content with perfecting an improved stove, known as the Franklin heater, he very early turned his attention to the improvement of domestic lamps. When we recall the fact that Franklin's first manual labor was cutting wicks in his father's chandler shop, it is not surprising that we find his versatile mind turning to the subject of improved illuminating appliances. Prior to 1742 candles were in general use in American colonies. The iron Betty lamps were used in a comparatively few families. The shallow, saucer-shaped clay cruise introduced from Scot-

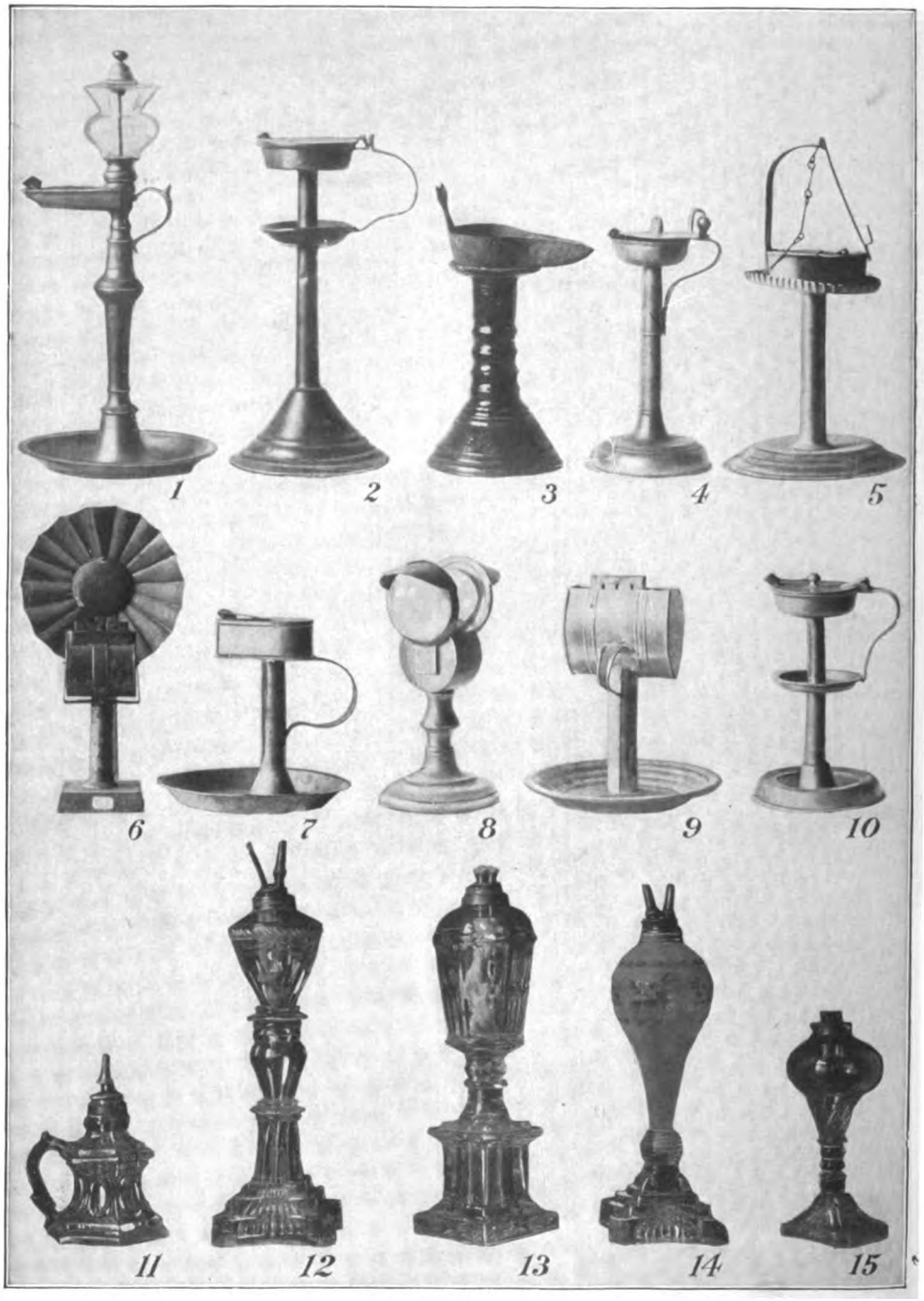
LAMPS



1–10 PRE-HISTORIC TERRA COTTA LAMPS; 1 Assyrian, 8000 B. C. 2 Phenician, 3000 B. C. 3 Persian, 2000 B. C. 4 Egyptian, 1500 B. C. 5 Assyrian, 2000 B. C. 6 Egyptian, 2000 B. C. 7 Jewish, 200 B. C. 8 Etruscan, B. C. 9 Roman, B. C. 10 Grecian, 300 A. D.

11–13 LAMPS OF ARCTIC NORTH AMERICA; 11 Eskimo Soapstone Lamp, North Greenland. 12 Eskimo Clay Lamp, Yukon Valley. 13 Eskimo Clay Lamp, North Alaska

14–22 EARLY AMERICAN COLONIAL LAMPS; 14 Tin Betty, 1632. 15 Iron Betty, 1620. 16 Fat Lamp, Brass dish, iron upright, 1680. 17 Iron Slot Lamp, 1640. 18 Cast Iron Fat Lamp, 1700. 19 Tin "Petticoat" Lamp, Whale-oil burner, 1832. 20 Tin Whale-oil Lamp, 1812. 21 Tin Upright, Franklin burner, Whale-oil, 1750. 22 Guest Lamp Tin, Whale-oil, used in old-time inns, 1820



1-10 EARLY ENGLISH AND AMERICAN COLONIAL LAMPS; 1 Horologic Lamp, Pewter, 1600. 2 Old Dutch Lamp, Copper, 1640. 3 Iron Slot Lamp Pottery Upright, Penn. Dutch, 1745. 4 Old English Pewter Lamp, dated 1708. 5 Tin Newburyport (Mass.) Betty, 1724. 6 Tin Lard-oil Lamp, with reflector, 1830. 7 Portsmouth (N. H.) Betty, Tin, 1760. 8 Old English Bulls Eye Lamp, Pewter, 1770. 9 Tin Lard-oil Lamp, 1840. 10 Old English Pewter Lamp, 1720

11-15 EARLY AMERICAN GLASS LAMPS; 11 Glass Camphene Lamp, 1845. 12. Glass Camphene Lamp, 1850. 13 Glass Whale-oil Lamp, 1830. 14 Glass Camphene Lamp, 1848 15 Glass Whale-oil Lamp, 1760

land was still used for lighting among the poorer classes, but candles were the chief illuminators. Franklin's first invention consisted in devising two round wick tubes so arranged that, according to his directions given to the workmen who constructed the burner, the distance between the tubes should equal the diameter of one of them. His theory was that the proximity of the two flames created an upward draught that so increased the heat that the liberated carbon was consumed, thus adding to the light and preventing smoke. He observed that the introduction of the third burner, while it consumed a third more oil, and added a third more flame, did not give a corresponding increase in light. Franklin also suggested the improved cotton wick, loosely braided, which afforded a better medium for supplying oil to the flame by capillary attraction. Franklin did not secure patents on his inventions, but allowed manufacturers to freely introduce them, which they did on quite an extensive scale, and small portable lamps of tin and brass with Franklin burners soon became very common.

Another American of note, Benjamin Thompson, better known as Count Rumford (q.v.), in 1789 wrote an exhaustive essay on "The Management of Light in Illumination." He constructed over 100 different lamps in his extended experiments. He invented the photometer to measure the relative intensity of light emitted by different illuminants. He found that the purest white light could be obtained by means of lamps properly constructed, using clarified vegetable or animal oil, at less than one-eighth of the cost for the same degree of light produced by wax candles, and for about half the cost of tallow candles. He invented but one burner. In this he constructed a centre, flat wick tube, with two similarly shaped tubes placed at acute angles on either side of the wick tube, his design being to supply oxygen through the angular tubes impinging on the wick tube. This burner did not satisfy him, and its introduction did not become general. In his further experiments he confined himself to the Argand burner, and devoted his attention to the better construction of the lamp proper. His aim was to produce a lamp in which the shadow should be eliminated as much as possible. He invented what was known as the "Astral lamp," which consisted of constructing the oil reservoir in the form of a flat, circular tube with radiating arms attached to the pedestal of the lamp, and securing the burner within the circle. He also introduced what he called the "Balloon Illuminator." This was for use in halls, ballrooms and salons. He also made what he called a "Dining-room Illuminator," and also a table or reading illuminator. All of Count Rumford's investigations and his extended experiments relating to lights and lamps, were carried on while he was in the public service of the Elector of Bavaria, who created him a count as a reward for his valuable services and as a recognition of his great learning and the importance of his researches and inventions.

Hundreds of patents have been granted to American inventors for lamps and lamp burners. One of the earliest patents on record in the United States Patent Office was for a device in which an adaptation was made of Franklin's two-wick tubes by securing them to a perforated disc through which the tubes passed. Beneath the disc was a cork through which the tubes also passed, the cork being cemented to the under side of the disc. This could then be fitted into the top of the lamp the same as a cork fits the neck of a bottle. This was mostly applied to glass lamps, which were first introduced in America in 1810. In 1812 one J. Neal secured a patent for a lamp provided with a telescopic sliding cylinder, the wick tubes were secured to the top of the cylinder, being screwed into a collar which formed the upper part of the tube. When the lamp was filled with oil, a float on the bottom of the tube extended the cylinder to its full length. The wicks were long, reaching to the bottom of the cylinder. As the oil was consumed the cylinder was correspondingly lowered, thus keeping the wicks uniformly submerged in the oil as long as any remained in the lamp. These lamps were made in tin, brass and pewter and became quite popular. In 1839 one J. Price of Nashville, Tenn., obtained a patent on an arrangement for burning pine knots. According to the directions the knots were to be cut up into small pieces and inserted into a tube, which had a diameter of about an inch and a half and a base not unlike an ordinary brass candlestick. A spring inside the upright tube was compressed as the pieces of pine knots were forced in. When the tube had been filled an oval cap or cover with a large opening was placed over the top and secured by a bayonet clutch. The spring forced up the wood to be burned through the opening in the cap; as it was burned away the ash fell into a circular receptacle secured on the upright pedestal. A sheet iron chimney with a broad hood partly surrounding the flame was provided as the specification says "to convey the ascending smoke away from the face of the person using the lamp." P. S. Moorhouse obtained a patent in 1830 for a lighting device in which balls of cotton or tow saturated with grease or fat were burned while held by an upright supporting claw secured to a pan base, in which the ash was collected. Between 1843 and 1845 S. Rust secured eight patents on lamps and five on burners. These patents did not introduce any new features, and consisted mostly of the introduction of novelties relating to forms and supposed ornamentation. His inventions in the line of burners did not involve any new features and possessed but little real utility.

The so-called "Solar Lamps," patented in 1843 by the Philadelphia firm of Cornelius & Company, were a great improvement over any table lamp so far introduced. They were constructed to burn lard oil. The burner proper was a modification of Argand's. The wick tube, over which the circular wick closely fitted, extended through the bottom of the oil reservoir, where it was provided with openings for the admission of air. The heat conveyed through the lard oil by the wick tube served to keep the oil in a liquid state in cold weather. The burner was so constructed that the flame was diffused more generally than in other lamps, while the bulb-shaped glass chimney created a hot-air chamber in which all free carbon was consumed. The light was profuse, white and clear. This firm manufactured a large variety of elegant lamps, which were used extensively in the homes of the wealthy. Benkler's lamp, introduced in 1840, had a tube through which air

was admitted to the flame, the angle of the tube being such that an upward movement of air was produced when the oxygen came in contact with the heat, and thus a forced draught was secured which made the light constant and aided greatly in the consumption of smoke. Through the means thus adopted cheap heavy oils could be burned without the offensive smell and excessive smoke produced by cheaper lamps when these low-grade oils were consumed.

Coal Oil and Kerosene Lamps.—About 1845 was introduced in the United States a compound that was known as burning fluid, or, from its inventor's name, Potter's fluid. This was a highly explosive illuminating fluid, composed of a mixture of about three parts of wood alcohol to one of purified oil of turpentine. This was burned in lamps provided with long, slender, tapering brass tubes, secured to a disc that screwed into a collar fitted to the upper part of the lamp. The wick was round, firmly woven cotton, which closely fitted the wick tubes. This was to prevent the escape of the vapor from the fluid. Little thimble-shaped caps, secured by small chains, were provided to cover the end of the wick tubes when the lamp was not in use. This was to prevent the evaporation of the highly volatile burning fluid. Camphene was the trade name of a burning fluid composed of oil of turpentine, purified by being distilled over quick-lime. This fluid was burned in lamps provided with the same class of burners as that described for burning fluid. The highly explosive nature of these dangerous compounds rendered them unpopular for domestic use, and they were soon displaced by the safer and cheaper kerosene oil, which came into general use about 1860. This was first called coal-oil, and in some localities mineral oil, while in others it was known as petroleum oil. Many hundreds of lamps and burners have been invented to use this cheap illuminant. In all successful kerosene burners a glass chimney is necessary. Many attempts have been made to produce a kerosene burner that would afford a clear, brilliant, steady, smokeless flame, without a chimney, but so far no good, practical lamp has been put on the market that successfully accomplishes this much-desired result. A lamp was made and introduced in 1869 that burned a vapor of naphtha without a chimney. While the flame from this device was white and brilliant, the light was flickering, and when moved about emitted annoying smoke. The highly explosive nature of the fluid burned made its common use unsafe, so that the vapor lamp never became popular. What is known as the German student lamp, supplied with an improved Argand burner, and the so-called Rochester lamp, employing another modification of the Argand burner, are the best and most successful kerosene lamps so far introduced. There are hundreds, if not thousands, of different kerosene oil burners attached to an almost endless variety of lamps now on the market. These embrace hand lamps, table lamps, piano lamps and a variety of library and parlor lamps that are remarkably rich in ornamentation and graceful in form and shape, but in the construction designed to assist the combustion of the oil in producing the illumination the same general principles are involved, and with the exception of the smaller hand lamps the original Argand burner principle is adhered to, with slight modifications and improvements. In the small hand lamps a perforated hood-shaped cap surrounds the wick making a dome-like chamber through which the air drawn from the outside is deflected into the flame, thus supplying the needed oxygen. The flat ribbon wick is used in most of the smaller lamps, the wick being moved up and down by a spur-wheel as before described.

Safety Lamps are lamps so constructed that the danger from the foul explosive air of mines, especially deep coal mines, may be lessened or prevented, by so protecting the flame of the miner's lamp that it will not come in direct contact with the mixed carburetted hydrogen and atmospheric air, which is often present in such quantities as to create an element of great danger. The first safety lamps were called "Steel Mills," and were devices in which small steel wheels, with roughened edges, were rapidly revolved against a flint, securely held by a powerful spring. The sparks thus produced afforded an intermittent light which was sufficient to illuminate the more dangerous parts of the deep mines. But as this lamp necessitated the employment of a boy to revolve the wheel while the miner was engaged in his work, it proved too expensive for economic use. In 1813 Dr. Canny in England introduced the first true safety miner's lamp. In his invention he produced a lamp in which the external air was admitted to the burner through a chamber containing water, while the flame was protected by a glass bulb, the product of combustion escaped through perforations in a flat support on which the glass bulb rested. This contrivance was so cumbersome, and so liable to breakage, that it never came into general use. In 1815 George Stephenson and Sir Humphry Davy contrived a safety lamp that, with slight modifications, has continued in use up to the present time. The air to support combustion was admitted to the flame through small openings in the bottom of the lamp, while the flame was protected by a glass, upright cylinder, the top of which was covered with a wire gauze cap. Several forms introducing slight changes from the original Davy lamp have been made. The lamp in which the flame is protected by a wire gauze cylinder in the place of a glass one was a later invention of Sir Humphry Davy. Mackworth's safety lamp was an improvement over the Canny lamp, and introduced features common to that and the Davy lamp. A water chamber was provided through which the external air passed before reaching the flame. Immediately surrounding the flame was a thick glass cylinder and above that a fine wire gauze cylinder, making a continuous protection about the flame. Outside of this was an additional wire gauze cylinder added as a means of protection against breakage. Lamps for jewelers, chemists and laboratory use are in reality miniature furnaces, and are generally provided with wide wick supports in which are large cotton wicks. Alcohol is the most common fluid used for generating heat in these lamps. Painter's lamps are contrivances in which naphtha is burned under pressure, the resulting heat being employed in the removing of old paint from surfaces which it is desired to repaint. Hand lanterns are simply lamps of various forms, surrounded by glass globes or cylinders to protect the flame from the wind. Ancient lan-

terns were provided with transparent protectors made of horn scraped thin to permit the light to be reflected through. The word lantern is a combination of lant-horn, and was employed to express a light which was protected with a transparent horn. Another form of early lantern, now designated by collectors as the "Guy Fawkes lantern," was of tin, perforated with small punctures through which the light shone. Early hall, or as they were called entry, lanterns were often massive and elegant ground glass globes, ornate and beautiful to a marked degree. Either candles or oil were used as illuminant. They were suspended by chains from the ceiling and a glass smoke protector was provided in those of more elaborate make. (See ELECTRIC LIGHTING; GAS ILLUMINATION). Consult Bolton, H. C., 'Legends of Sepulchral and Perpetual Lamps' (London 1879); Hough, W., 'Lamps of the Esquimo' (Washington 1896); Norton, C. A. Q., 'Light and Lamps of Early New England,' (in *Connecticut Magazine* Hartford 1903–04); Walters, H. B., 'Greek and Roman Lamps in the British Museum' (London 1914).

C. A. QUINCY NORTON, M.D.

LAMP, Electric. See ELECTRIC LIGHTING.

LAMPADEDROMY, or LAMPADEPHORIA, an ancient Greek torch race on foot or horseback, held in honor of Prometheus, Athena, Hephæstus, Demeter, Pan, Artemis and other divinities. The races undoubtedly originated in honor of Prometheus. The aim of the contestants was to be first to reach the goal with the torch still burning. The races were held at night, and in some of them the contestants were mounted. The foot races were run either singly, each contestant running the entire course, or in relays, in which case the torch was passed from one runner to another and the winner was the team whose torch first arrived. Extinguishment of the torch prohibited a bearer from continuing in the race. The races were regarded as very important, requiring rigorous physical tests and long training.

LAMPASAS, lăm-păs'sąs, Tex., town and county-seat of Lampasas County, on a branch of the Lampasas River, and the Gulf, Colorado and Santa Fe and the Houston and Texas Central railroads, 80 miles northwest of Austin. There is a large trade here in agricultural produce, live stock, cotton, grain, wool, and the town has cotton gins, wagon and carriage factories, flour-mills and other industries. Sulphur springs in the locality have attracted many invalids here. The town owns the water supply system and has a public library and two public parks. Pop. 2,119.

LAMPBLACK, finely divided carbon or soot, produced on a commercial scale by the imperfect combustion of organic materials that are rich in carbon, such as tar, resins, pitch and petroleum. The combustion is usually carried out in brick furnaces, or in cast-iron vessels, to which a smaller supply of air is admitted than would be required for complete oxidation. The dense smoke that results is led through a series of settling chambers, in which the lampblack is deposited, the finest grade being precipitated in the last chamber. Lampblack so prepared contains about 80 per cent of carbon, the remaining portion consisting of oily and resinous matters, together with moisture and certain inorganic substances, such as ammonium sulphate. The resinous and other organic constituents can be removed by heating to redness in a closed crucible, after which the soot is digested with hydrochloric or sulphuric acid, and finally washed to remove the inorganic constituents. Lampblack is used chiefly in the manufacture of paints and printers' inks and for these purposes the crude product is sufficiently pure. For the manufacture of Chinese ink ("India ink") the purified soot is preferable. In the German method the soot is deposited on woolen cloths hung in the chambers, from which the pigment is detached by beating. See also BLACKS; CARBON.

LAMPER-EEL, or LAMPERN, a lamprey (q.v.).

LAMPERS, or LAMPAS, an inflammation and swelling of the mucous membrane of the hard palate in the roof of a horse's mouth. The swelling is back of the incisor teeth and is due to physiological causes; it usually occurs in young horses and at the time of shedding the teeth. No treatment is necessary although an astringent wash may be used.

LAMPERTI, ląm-pĕr'tē, **Francesco,** Italian teacher of vocal music: b. Savona, 11 March 1813; d. Como, 1 May, 1892. He studied at the conservatory at Milan and for many years was director of the theatre at Lodi, where he also engaged in vocal training. From 1850–75 he was professor of vocal music at the Milan Conservatory, after which time he engaged in private instruction. His reputation was world-wide and he numbered among his pupils Sembrich, Campanini, Galli, Albani and many other famous singers. He published several treatises on the training of the voice, an English translation by J. C. Griffith, 'A Treatise on the Art of Singing' (1876), covering the essentials of his methods.

LAMPMAN, Archibald, Canadian poet: b. Morpeth, Kent County, Ontario, 17 Nov. 1861; d. Ottawa, Ontario, 10 Feb. 1899. Of United Empire Loyalist descent, he was graduated from Trinity College, Ontario (1882), and after 1883 held an appointment in the Post Office Department at Ottawa. He published two collections of poems, 'Among the Millet' (1888), and 'Lyrics of Earth' (1895). His 'Complete Poems' with 'Memoir' by D. C. Scott appeared in 1900.

LAMPRECHT, lăm'prĕkt, **Karl,** German historian: b. Jessen, near Wittenberg, 25 Feb. 1856; d. 11 May 1915. He was educated at Göttingen, Leipzig and Munich and in 1885 became professor of history at Bonn, in 1890 at Marburg and in 1891 was appointed to a similar office at Leipzig, which was admirably equipped for his work. As a teacher he was original in his methods, and to him history meant as much the revelation of sociology as of political events. In 1905 he represented Germany at the Congress of Science held at Saint Louis. He founded in 1882 the 'Westdeutshe Zeitschrift für Geschichte und Kunst.' He was the chief exponent of the *Kulturgeschichte* and believed intensely in the superiority of German *kultur*. Shortly before his death he repudiated, with some indignation, the conception of Germany's part in the Great War as having been dictated

by the "War Lords," and avowed that in regard to it that Germany was a unit. His writings include 'Beiträge zur Geschichte des französischen Wirtschaftslebens im elten Jahrhundert' (1878); 'Die römische Frage von König Pippin bis auf Kaiser Ludwig den Frommen' (1889); 'Deutsche Geschichte' (13 vols., 1891–1908); 'Zur jungsten deutschen Vergangenheit' (1901); 'What is History' (1905); 'Americana' (1906).

LAMPRECHT THE PRIEST, a middle high German epic poet of the 12th century: date and place of birth and death unknown. Practically all that is known of his life is that he was called "the Priest" and that he wrote, about 1130, the 'Alexanderlied,' an epic poem, founded on a French poem by Aubry de Besançon, celebrating the life of Alexander the Great. It has been published in several different editions, among them being Vienna (1849), Frankfort (1850), Halle (1884, 1898).

LAMPREY, an eel-like creature of the group *Cyclostomi* and family *Petromyzonidæ*. The anatomical characters are described under CYCLOSTOMI. The lampreys feed principally on fishes, to which they attach themselves by their suctorial mouths, and then scrape away the flesh with their rasp-like teeth. There are about 7 genera and 15 species, living mostly in the north temperate zone. Lampreys inhabit both salt and fresh waters, but those of the sea ascend rivers and brooks to deposit their spawn on pebbly shallows, and great numbers die there. Most of them are plainly dark colored, but some of the fluviatile species are bluish or silvery, as the common one (*Ichthyomyzon concolor*), in the Upper Mississippi Valley and Great Lakes, which is about a foot long.

LAMPSACUS, ancient Greek city of Mysia, Asia Minor, on the Hellespont and opposite Gallipoli. The modern village of Lapsaki is built on its site. The city was colonized by Ionian Greeks, possessed a fine harbor and was celebrated for its wine. It came under Persian rule during the Ionian revolt, but after the battle of Mycale, in 479 B.C., it joined the Athenians. After its defense against Antiochus the Great of Syria in 196 B.C. it became an ally of Rome. Lampsacus was the seat of worship of the nature-god Priapus.

LAMPTON, William James, American journalist: b. Lawrence County, Ohio; d. May 1917. He was educated in public and private schools and at the Ohio Wesleyan University and Marietta College; edited a newspaper at Ashland, Ky. (1887–88); was reporter for the Cincinnati *Times*, writer for the Steubenville *Herald* and the Louisville *Courier-Journal*, editor of the *Merchant Traveler*, Cincinnati, and was on the staff of the *Critic* and the *Evening Star*, Washington, and of the Detroit *Free Press*. He was also, after 1898, a special writer for the New York *Sun* and the New York *Herald*. In March 1910 he was appointed colonel on the staff of Governor Willson of Kentucky. He published 'Yawps and Other Things'; 'Mrs. Brown's Opinions' (1886); 'Confessions of a Married Man'; 'Tame Animals I Have Known' (1912), and 'The Trolley and the Lady' (1908). He was a member of the Poetry Society of America and the Author's League of America.

LAMSDORFF, lâms'dôrf, or **LAMBSDORF, Vladimir Nikolaevitch,** COUNT, Russian statesman: b. Petrograd, 25 Dec. 1844 (old style); d. 20 March 1907. He entered the Foreign Office in 1866 and was continuously in service until his resignation in 1906. He became Assistant Foreign Minister in 1897 and Foreign Minister in 1900. He was likewise Privy Councillor from 1901; and in 1902 he was Secretary of State to the emperor. He was one of the framers of the Pekin Treaty of 1900 which determined the future commercial relations of the two countries and stipulated that China should defray the costs involved in the suppression of the Boxer; and in his official capacity worked earnestly in 1903 to avert the Russo-Japanese War. He was successful in securing an amicable settlement with Great Britain when the Russian fleet by mistake fired on a British fishing fleet off Dogger Bank 25 Oct. 1904. He possessed all the Orders of Russia from 1898.

LAMSON-SCRIBNER, Frank, American botanist: b. Cambridgeport, Mass., 19 April 1851. He was graduated at the Maine State College of Agriculture in 1873; served two years as clerk to the secretary of the Maine State Board of Agriculture; and was an officer of Girard College (1876–84). In 1887 he was made chief of the section of vegetable pathology in the United States Department of Agriculture, and from 1888 to 1894 was professor of botany in the University of Tennessee, and director of the agricultural experiment station there 1890–94; chief of Division of Agrostology, United States Department of Agriculture, 1894–1901, and chief of the Insular Bureau of Agriculture, Philippine Islands, 1901–04. In 1889 he received from the French Minister of Agriculture the cross of the Chevalier du Mérite Agricole. He was in charge of exhibits of the United States Department of Agriculture at various expositions since 1904, including those at Saint Louis (1904), Portland, Ore. (1905), Jamestown (1907), Seattle (1909), Buenos Aires (1910), Turin, Italy (1911), the Dry Farming expositions at Lethbridge, Can. (1912), Tulsa, Okla. (1913), Wichita, Kan. (1914), Denver, Colo. (1915); appointed expert on exhibits by the Secretary of Agriculture (1913); and member of the Government Exhibit Board by the President for the Panama-Pacific International Exposition. Among his writings published in the proceedings of various bodies, encyclopædias and in government reports, are 'Weeds of Maine' (1869); 'Ornamental and Useful Plants of Maine' (1874); 'Agricultural Grasses of Central Montana' (1883); 'Revision of the North American Melicæ' (1885); 'Grasses of Mountain Meadows and Deer Parks' (1889); 'Philippine Agriculture'; 'Diseases of Plants' (1885–87); and papers on 'Grasses as Sand and Soil Binders,' and on 'Grasses and Foliage Plants,' including descriptions of many new species (1894–1900). He has also published 'The True Grasses,' translated from 'Die natürlichen Pflanzenfamilien' (1890).

LAMY, lą'mē, **Bernard,** French philosopher and author: b. Le Mans, 1640; d. Rouen, 29 Jan. 1715. He studied at the oratory at Le Mans and in 1658 entered that at Paris. From 1671–75 he was professor of philosophy at Saumur, and later taught at Grenoble and at Paris.

He was removed from Saumur because of his advocacy of the Cartesian philosophy; and he later had trouble over the publication of one of his books without requisite permission. He thereupon, in 1690, retired to Rouen, where he pursued his literary labors. His works include 'Nouvelles Réflexions sur l'art poetique' (Paris 1668; 2d ed., 1678); 'L'art de parler' (Paris 1670; 8th ed., 1757); 'Entretiens sur les sciences' (Grenoble 1683); 'De Tabernaculo fœderis, de sancta civitate Jerusalem et de Templo ejus,' a work of 30 years (Paris 1720), etc.

LAMY, Etienne Marie Victor, French author: b. Cize, Jura, 2 June 1843. He took his degree in law at the University of Stanislas in 1869, and from 1871–81 he served in the House of Deputies. He was elected to the Academy in 1905 and in 1913 became its perpetual secretary. His works include 'Le Tiers Parti, l'Assemblée nationale et la Dissolution' (1872); 'Témoins de jours passes' (1909, 1913); 'Au service des idées et des lettres' (1909); 'Quelques œuvres et quelques œuvriers' (1910, 1913), etc.

LANARK, Scotland, a parliamentary, royal and municipal burgh and the county town of Lanarkshire, 32 miles southeast of Glasgow. It is finely situated in romantic scenery; the Falls of Clyde are near by. The principal industries are weaving and shoemaking. Lanark was the scene of some of Wallace's exploits, and it has interesting Roman and feudal remains. The race course is the scene of a famous Scottish meeting. New Lanark, about a mile off, was for 28 years (1800–28) the scene of the noteworthy social experiments of Robert Owen (q.v.). Pop. of municipal burgh, 5,900.

LANARKSHIRE, an inland county in the southwest of Scotland, bounded on the north by Dumbarton and Stirling shires, east by Linlithgow, Midlothian and Peeblesshire, south by Dumfriesshire and west by Ayrshire and Renfrewshire. Area, 897 square miles. Holding tenth place in area of the Scottish counties, it contains one-fourth of the population of the country. It is almost entirely drained by the river Clyde and its affluents, and shows a remarkable diversity of aspect, bleak uplands, smiling orchards, busy coal fields and manufacturing districts. The surface rises toward the south, where the Leadhills reach an altitude of 2,403 feet. The Upper (or southern) Ward is chiefly composed of hill or moorland; the Middle Ward is famous for its orchards and the Lower Ward has rich alluvial lands. Dairy farming is one of the principal agricultural industries. Lead-mining is carried on. It is the principal seat of the iron and coal trade of Scotland, with its numerous dependent industries, about 50 per cent of the coal mined in Scotland is raised in Lanarkshire. For Parliamentary purposes the county contains six divisions. The county town is Lanark (q.v.). Pop., including Glasgow, 1,486,081; exclusive of Glasgow, 662,575.

Lanarkshire, which has many interesting Celtic and Roman remains, was in ancient times inhabited by the Damnonii, a Celtic tribe. It formed part of the Saxon kingdom of Strathclyde, which in the 7th century was subdued by the Northumbrian Saxons, when great numbers of the Celts migrated to Wales. The county has stirring associations with the struggle for Scottish independence; at Langside the fate of Mary, Queen of Scots, was settled by the defeat of her forces by the Regent Moray (1568); the Covenanters defeated Claverhouse at Dumclog in 1679, and were in turn defeated by the Duke of Monmouth at Bothwell Brig in the same year.

LANCASHIRE, lăn'kạ-shẽr, county palatine in England, bounded on the north by Cumberland and Westmoreland, on the east by Yorkshire, on the south by Derbyshire and Cheshire and on the west by the Irish Sea. Area, 1,880 square miles. It is somewhat flat toward the shoreline, but elevated in the north and east. Geologically, carboniferous limestone prevails in the north, old red sandstone on the coast. Wheat, oats and potatoes form the principal crops; and among its minerals the principal are coal, slate, paving stone, stoneware and fireclay. The great coal field occupies 400 square miles between the chief rivers, the Ribble — the dividing line between the northern and southern parts of the county — and the Mersey. Iron is abundant in the Furness district, also famed for its ship-building. Its minerals, and especially its great cotton industry, have given it world-wide fame; and its other manufactures include worsted, wool, silk, machinery, glass and soap. Liverpool and Manchester are the principal cities. The capital is Lancaster. For Parliamentary purposes the county has 23 divisions. After the Norman Conquest, Lancaster became first an earldom and then a duchy, and since the reign of Edward IV it has been a Crown duchy and palatinate. Pop. 4,767,832, of which 4,000,000 are in South Lancashire.

LANCASTER, lăng'kăs-tẽr, Sir **James,** English navigator: b. about 1550; d. London, May 1618. He served under Drake against the Armada in the *Edward Bonaventure*. He commanded the same ship in the first English expedition to the East Indies (1591–94). The record of this voyage is one of perilous adventure, in which some Portuguese ships were captured, and a mutiny broke out in his own crew. Of the 200 who had doubled the Cape with him, but 25 returned to England. This voyage led to the founding of the East India Company, of which he was an original director. He captured Pernambuco in Brazil in 1594, and commanded the first fleet of the East India Company (1600–03). On his return home he was knighted. He did much to promote the voyages of Weymouth, Hudson and Baffin, in search of the Northwest Passage to India. The strait leading west from the north of Baffin Bay was in 1616 named Lancaster Sound by Baffin. He was the first of the navigators to use lemon juice as a remedy for scurvy, the virtue of which was afterward entirely forgotten for nearly 200 years. Consult his 'Voyages,' edited by Markham for the Hakluyt Society (London 1877).

LANCASTER, Joseph, English educator, the founder of the educational system bearing his name: b. London, 25 Nov. 1778; d. New York, 24 Oct. 1838. Early awakened to religious impressions, he served as a naval volunteer and afterward joined the Society of Friends, and became deeply imbued with the educational needs of the poorer classes. In 1798 he opened a school for children in Southwark,

which he conducted on the Madras system, previously made known by Dr. Bell. (See BELL, ANDREW). The principal features of the system were the teaching of the younger pupils by the more advanced students, called monitors, and an elaborate system of mechanical drill by means of which these young teachers taught large numbers at the same time. Although his schools were opposed by the Established Church as subversive of its monopoly, he soon found powerful support, and in 1805 was teaching 1,000 children. The number of his patrons and the amount of subscriptions continuing to increase, he founded a normal school for training teachers in his system. He made extensive tours through Great Britain and Ireland, and in 1811 had founded 95 schools, attended by 30,000 children. He was somewhat unbusinesslike and improvident in his habits; became bankrupt, and emigrated to America in 1818, where schools were founded on his model at New York, Philadelphia, Boston and Baltimore, and afterward attemped to set up one in Montreal. He ultimately fell into poverty. His family subsequently removed to Mexico, where his system was very popular, and where his grandchildren, bearing the name Lancaster-Jones, became prominent politically.

LANCASTER, William Joseph Cosens, "HARRY COLLINGWOOD," English civil engineer and author: b. Weymouth, 23 May 1851. He entered the British navy as a midshipman, but on account of defective eyesight resigned, and became a civil engineer, in that capacity visiting different parts of the world. Under the pseudonym "Harry Collingwood," he is known to juvenile readers in England and America as the author of the popular nautical romances, 'The Secret of the Sands' (1878); 'Under the Meteor Flag' (1884); 'The Pirate Island' (1884); 'The Congo Rovers' (1885); 'The Missing Merchantman' (1888); 'The Cruise of the Esmeralda' (1894); 'An Ocean Chase' (1898); 'The Castaways' (1899); 'A Pirate of the Caribbees' (1900); 'Across the Spanish Main' (1906); 'Under the Chilean Flag' (1908); 'Overdue' (1910).

LANCASTER, England, municipal borough, seaport and county town of Lancashire, on the south bank of the Lune where it becomes tidal 12 miles from the sea, and 21 miles north of Preston. The silting up of the estuary with sand has made the port inaccessible for large vessels, but a dock has been built at Glasson, five miles distant, where ships transfer their cargoes to lighters. The principal manufactures are cabinetmaking, oilcloth and linoleum, cotton and silk goods, and machinery. Lancaster was a Roman station; its earliest charter is dated 1193; but except for the castle keep, built by the Normans, and Saint Mary's Church, no building antedates the 17th century. The town owns the gas, water and electric undertakings, as well as slaughterhouses, baths, markets and cemeteries. A magnificent town-hall, built in the classic style and the gift of Lord Ashton, was opened in 1909. There are technical and art schools, a fine aqueduct and a fine public park, the Williamson Park. Pop. 41,410.

LANCASTER, Mass., town, and several villages combined, in Worcester County, on the Nashua River, and the Boston and Maine Railroad, 18 miles north of Worcester. Here is the State Industrial School for Girls, a public library, four churches, the Thayer Museum of North American Birds, high school, and manufactures of brick, cotton yarn, brushes, etc.; printing office and book-bindery; also large poultry and other farming interests. The Seventh Day Adventists maintain a large academy at South Lancaster. The town was first settled in 1651 by John Prescott. In 1676 the Indians laid the place in ruins and killed 40 of the inhabitants. It is the birthplace of Mrs. Caroline Lee (Whiting) Hentz, author of 'The Planter's Northern Bride' and other once popular novels; James C. Carter, the noted lawyer, and Luther Burbank. The town owns the waterworks. Pop. 2,585.

LANCASTER, N. H., town and county-seat of Coos County, on the Israel River, 126 miles north of Concord, on Western Boulevard route of the State system of highways, with direct routes and good roads to all mountain resorts. There are excellent schools. The town is on the Boston and Maine and the Maine Central railroads and is a popular summer resort and residential section for New York and Boston people, being situated in an attractive part of the White Mountain region. It has manufactories of drugs, chemicals, lumber, wood-work and machinery. The town was settled in 1764. The town owns and controls the waterworks. Pop. 3,054.

LANCASTER, N. Y., village in Erie County, on the New York Central and Hudson River, the Lehigh Valley, the Delaware and Lackawanna and Erie railroads, 10 miles east of Buffalo. An important manufacturing centre containing iron-works, brass foundries, machine shops, glass-works, flouring-mills, brickyards, knife-works and other industries. The waterworks plant is owned by the village. Pop. 4,364.

LANCASTER, Ohio, city and county-seat of Fairfield County, on the Hocking River and Canal, and the Pennsylvania and other railroads, 32 miles south of Columbus. It is the farming centre for the county; is in the natural-gas belt and is engaged in the manufacture of agricultural implements, stoves, paper, automobile tires, wood-pulp machines, lenses, carbon pyrometers, foundry products, flour, glass, shoes, and has railroad shops and carbon works. It is the seat of the State Industrial School for Boys, Crawfis Institute and the Columbia Commercial School; contains a fine courthouse, high school, four banks and many churches; and has electric light and street railroad plants; a good water supply; daily, weekly and monthly periodicals; and an assessed property valuation of over $2,000,000. The city does an annual business amounting to $750,000. It was first settled in 1800 by Ebenezer Zane and is governed by a mayor and a city council of seven members elected every two years. The city owns the waterworks and gas plants. Senator John Sherman and Gen. W. T. Sherman were born here. Pop. 14,840.

LANCASTER, Pa., city and county-seat of Lancaster County, the richest agricultural county in the United States (census 1910), on the main line of the Pennsylvania and the Philadelphia and Reading railroads, 68 miles west

of Philadelphia and 37 miles east of Harrisburg. It is the manufacturing trade centre for the county; it is an important tobacco market and is engaged in tobacco growing, cigar-making, cattle raising and the manufacture of cotton goods, locks, watches, umbrellas, silk, linoleum, cork, iron and steel goods. It is the seat of Franklin and Marshall College and the Thaddeus Stevens Industrial School of Pennsylvania; contains the General, Saint Joseph's and the County hospitals, Children's Home, a public library, a Y. M. C. A. and Y. W. C. A.; has gas and electric light plants, 162 miles of electric railroad in the city and county, 13 national and State banks having a combined capital of $2,904,000, about 50 churches and an assessed property valuation of over $29,000,000. The city was founded in 1718 by Mennonites (q.v.) and was called Hickory Town until 1730. In 1777 Congress sat here for a few days and from 1799 to 1812 it was the capital of the State. It became a borough in 1742 and a city in March 1818. It is governed by a mayor, elected every two years, and by a select council of nine members and a common council of 27 members elected annually. Here is the birthplace of Gen. John Fulton Reynolds, home of President James Buchanan, 15th President of United States, and the tomb of Thaddeus Stevens, the great statesman. The municipality spends upward of $250,000 yearly in maintaining the public service. Pop. 55,000.

LANCASTER, S. C., town and county-seat of Lancaster County, located on the Southern and Lancaster and Chester railroads, 72 miles north of Columbia and 40 miles south of Charlotte. This is the shipping and trade centre of a large and fertile district devoted to the growing of cotton, tobacco, alfalfa and grain, and to the live-stock industry. The largest cotton-mill under one roof in the South, 137,778 spindles and 3,006 looms, is located here; machine shops, cotton-oil mill and other industries; the second largest department store in the State; splendid graded schools; paved streets and all modern city conveniences; 100 business houses; three strong banks; one semi-weekly newspaper; magnificent churches; a salubrious climate and a most hospitable citizenship. Pop., city, 3,500; city and mill district, 7,000.

LANCASTER, House of, a name given in English history to designate the line of kings — Henry IV, V and VI, immediately descended from John of Gaunt, fourth son of Edward III. Edmund, second son of Henry III, was created Earl of Lancaster and Leicester. His son Thomas added Derby and Lincoln to his titles, became leader of the baronial opposition to Edward II and was beheaded for treason. His grandson was advanced to the dignity of a duke and, dying without male issue, the inheritance fell to his daughter Blanche, heiress of Lancaster, who became the wife of John of Gaunt, who in 1362 was created Duke of Lancaster. His elder brother Lionel was created Duke of Clarence, and thus originated the rival houses of Lancaster and York. Henry IV, son of John of Gaunt, deposed Richard II, son of Lionel, and usurped the crown, being succeeded by his son Henry V, and both sovereigns obtained Parliamentary and Church sanction for their rule. The long minority of Henry VI and his feeble rule ended in the Wars of the Roses (q.v.), the contest being concluded by the union of the two houses in the marriage of Henry VII, the Lancastrian heir, with Elizabeth, eldest daughter and heiress of Edward IV, of the House of York. See also ENGLAND.

LANCASTER SOUND, an outlet of Baffin Bay, in lat. 74° 20′ N., connecting it with Barrow Strait. This opening into the Arctic Ocean was discovered by Baffin in 1616 and was named in honor of Sir James Lancaster (q.v.), but it was first navigated by Parry in 1819. Only part of it is navigable each season.

LANCASTERIAN SCHOOLS. Democracy had not yet obtained such a strong hold upon the people of America at the beginning of the 19th century as to lead them to provide free public schools for all the children. Then, too, the financial conditions of the country were such that the people were unable to meet the expense which would be incurred in the maintenance of such schools. Private schools which received pay pupils, church and charity schools and home instruction were the educational facilities afforded in these early times. Probably not more than one-fourth of the children of the country were afforded the opportunity of attending a school. Men of vision recognized the menace to a republican form of government in a large body of illiterate citizens and the need, therefore, of remedying the situation which existed. It was known that in London a type of schools had been established which afforded instruction for a large number of pupils at very small cost. These schools were known as Lancasterian schools.

The founder of these schools was Joseph Lancaster, a native of London. His parents were very poor and he received only the rudiments of an education. He possessed a philanthropic, benevolent spirit and showed marked interest and sympathy in the poor. At the age of 20 he opened in Southwark, London, in 1798, a school for the poor. His personality, his genius for organization and the great necessity for a school of this type made the enterprise a success and he soon enrolled 1,000 pupils in the school. A small tuition was charged those who could pay it but no pupil was refused admission who was unable to pay tuition. The receipts from tuition did not permit the employment of sufficient teachers to give instruction. Lancaster was familiar with the type of school maintained by Dr. Andrew Bell under a monitorial system. He modified and improved the Bell system and adapted it to meet the needs of his school.

In 1805, the legislature of New York incorporated an organization known as "a society for establishing a free school in the city of New York for the education of such poor children as do not belong to or are not provided for by any religious society." One of the prime movers in the organization of this school was DeWitt Clinton. The first school opened by this society was in 1806 and the Lancasterian system was put in operation in that school. The dominant influence in this society was that of the Friends and as Lancaster's school in London was non-sectarian and had been sup-

ported by the Friends it was natural that this society should adopt the Lancaster type of school. The name of the society was later changed to Public School Society and continued its operations for nearly 50 years or until 1853 when it was merged into the public school system of the city under the control of the board of education. More than 60 schools had been established and in each of these during their entire history the Lancasterian system was in operation. While the Lancasterian schools will always be associated with the Public School Society of New York City, such schools were very generally organized in the northern and eastern parts of the United States. He attempted the organization of an institution in Baltimore under his own direction known as Lancasterian Institute. Little is known of this institution except that it was a failure. He also organized a model Lancasterian school in Philadelphia. Outside of New York city these schools were not a factor in public education for a longer period than 20 years and gradually disappeared after 1830. A fine school building administered under the Lancasterian plan was erected at Albany in 1812 and still stands on Eagle street one block south of State street and is owned and occupied by the Albany Medical College.

The most distinguishing feature of the Lancasterian schools was the employment of monitors. One teacher with the assistance of monitors would give instruction to 500 and often to 1,000 pupils. The monitors were chosen from the pupils in the school. The pupils who were regarded by the master as the best students in the advanced classes were selected. They were generally allowed their tuition for the services rendered and sometimes were paid a shilling or two per week. A monitor was charged usually with the instruction of 10 younger pupils. He sat on a high stool or raised seat at the end of a bench on which his pupils were seated. These monitors were very often divided into two classes—general monitors and subordinate monitors. They were called monitor-general of reading, monitor-general of writing, monitor-general of arithmetic. The subordinate monitors were called assistant monitors or simply monitors of reading, monitors of arithmetic, monitors of writing, etc. Each monitor wore a badge or ticket usually made of leather and on this was printed the title of the monitor and his rank.

The curriculum in these schools consisted almost wholly of instruction in reading, writing, arithmetic and morals or religion. Instruction in science and in English grammar was added to the course of study in the schools of New York City during the later years of their existence. The teaching was wholly mechanical. The sole effort of instruction was aimed at imparting information and developing the memory. There was an absolute lack of effort to arouse the child's powers of observation, to stimulate the exercise of his own mental attainments and to develop him into a reasoning, thinking being. Much of the instruction was given by dictation and by the use of formal questions. This was necessary under the monitorial system because the monitors did not possess sufficient education to give independent instruction. Sand tables were used for the children in the younger classes. Boards containing the letters of the alphabet—small and large—were posted in the schoolroom. The alphabet wheel was also largely used. This was arranged so that a wheel adjusted to a standard might be turned in such a way as to show consecutively the letters of the alphabet. When a letter was exhibited the child from dictation traced the letter in the sand or on a slate. Children who had not received instruction were placed beside those who had received instruction, so that the latter might aid the former. This process of teaching the alphabet was tedious and required from one to two years to enable the child to "learn his letters." This process was termed a "very intellectual method of teaching the alphabet." Writing was of course taught in connection with the reading. When a pupil had learned his alphabet he was promoted to the class in monosyllables and was taught b-a spells ba. Arithmetic was taught under the same general plan. The subject included the four fundamental processes. The pupils were first taught to copy figures from the blackboard. The monitor would write a column of figures on the blackboard and the first pupil would read aloud as, "3 and 4 are seven and 5 are 12 and 7 are nineteen and 6 are twenty-five, put down 5 and carry 2 to the next." If the first pupil made an error in this addition the pupil who discovered it took rank over the one who made the error. As pupils became proficient in arithmetic they were promoted in that subject independently of their proficiency in other subjects. They were promoted in each subject on the same basis. Here was the idea of the modern departmental system of school organization. Teachers of today and even the layman in education will understand the general defects of the Lancasterian system of instruction.

The principles upon which Lancaster founded his schools were sounder than his plan of organization or his systems of instruction. He declared that all children were entitled to an education and that the good of society required that they should be educated. He accordingly held that it was the obligation of a nation to provide school facilities for all children who would not otherwise be accorded such privileges. He also opposed the action of any church in attempting to compel children not members of such church to attend its schools. He regarded such action as the infraction of a most sacred personal right. These fundamental principles of public education were sound and conform to the general principle now accepted wherever public schools are maintained that "education is the function of the state."

Lancaster made extended use of mottoes which were posted conspicuously in the schoolroom, on cards or boards, and which were also made the subject of classroom instruction. Some of these were as follows: "A place for everything and everything in its place." "Let every child at every moment have something to do and a motive for doing it."

One of the first agencies in the country for the training of teachers was the Lancasterian schools. The annual report of 1814 of the society for establishing a free school in New York, states that from its beginning (1806) one of its great objects of interest has been to train teachers. In 1818 Charles Picton, a trained disciple of the Lancasterian system, was

brought from London to take charge of a public school in New York City. The training of teachers which had already received attention was given prominence and the trustees announced that they would gratuitously train teachers for this system in six or eight weeks. Lancaster did not approve this limited training and referred to it as preparing "mush-room teachers." The plan of training teachers in New York City was later improved and the course extended to include more advanced instruction. The work of these schools in training teachers was no more effective than the instruction which the schools provided for the children.

Lancaster was opposed to the rod as a disciplinary agency. His ideas on this subject are represented in the following statement: "The guillotine in France, during the Reign of Terror, and the rod in the hands of the advocates of ignorance, are alike." DeWitt Clinton stated in relation to the discipline of these schools, "The punishments are varied with circumstances, and a judicious system of rewards, calculated to engage the infant mind in the discharge of its duty, forms the keystone which binds together the whole edifice." Rewards were offered for meritorious conduct and fines were imposed for breaches of discipline. These were arranged on an elaborate scale through the issuance of tickets; some of the common modes of punishment were as follows: placing a wooden log weighing from three to eight pounds around the pupil's neck; putting wooden shackles on the legs of a pupil and compelling him to walk around the room, putting the hands behind the back and tying them with wooden shackles, tying the legs together, detention after school hours, placing a label on the pupil which specified his offense, compelling a pupil to wear a tin or paper cap or a fool's coat, giving an indolent boy a cart or a pillow. It is suggested in the manual that boys should be rocked in a cradle.

In the year 1818, Lancaster came to the city of New York. He was received as a distinguished guest of honor. He was welcomed on behalf of the city by the recorder and the mayor and on behalf of the State by Governor Clinton. The governor invited him to Albany and there introduced him to the leading men of the State. He then visited the city of Philadelphia and was there received with unusual honor and distinction. From Philadelphia he went to Washington where the House of Representatives passed the following resolution: "That Joseph Lancaster, the friend of learning and of man, be admitted to a seat within the hall."

Clinton gave the Lancasterian system his unqualified approval and through his great influence the system was readily adopted in every city in the State of New York. Clinton said of him, "I recognize in Lancaster the benefactor of the human race. I consider his system as creating a new era in education, as a blessing sent down from heaven to redeem the poor and distressed of this world from the power and dominion of ignorance." One of the governor's last official acts was to recommend the enactment of law authorizing the supervisors of each county to raise $2,000 for the establishment of a monitorial high school in each county of the State.

This system did not provide a sound system of public education. It became established in certain parts of the country, notably in New York City, and delayed the establishment of a sound, practicable, efficient system of education in such places for several years. Its adoption not only throughout the United States but in England, Holland and Germany was due largely to the claim of its friends that "one teacher could instruct one thousand pupils." Its trial throughout the world for a period of 25 to 50 years shows the lack of appreciation of a sound, scientific system of education which existed not only in America but abroad in the formative period of our national government.

THOMAS E. FINEGAN,
Deputy Commissioner of Education and Assistant Commissioner in charge of Elementary Education, State of New York.

LANCE, George, English painter: b. Dunmow, Essex, 24 March 1802; d. Birkenhead, 18 June 1864. When less than 14 years old he entered the studio of Haydon in London and remained a pupil there for seven years, also studying at the Royal Academy. He began to exhibit in 1824 and is best known as a painter of flowers, fruits and game, but occasionally produced historical and genre work. He exhibited 135 pictures at the British Institution, 48 at the Society of British Artists and 38 at the Royal Academy. His work may be seen in the National Gallery, the South Kensington Museum and the Tate Gallery. Among his pupils were Sir John Gilbert and William Duffield.

LANCE, a weapon consisting of a long shaft, with a sharp point, much used before the invention of firearms and still in use. It was common among the Greeks and Romans. Frederick the Great formed an entire regiment of lancers. The Austrians followed and soon established three regiments. After the partition of Poland, many Poles entered the French service and a body of Polish lancers was established. The war with Russia, in which the efficiency of the lance in the hands of the Cossacks, particularly in 1812, was strikingly manifested, brought this weapon into still more repute, and the Prussians formed three regiments. The French lancers were formed in 1813 to cope with the Cossacks. Almost all the armies of Europe have regiments of lancers: the Cossacks of the Ural, the German Uhlans, the independent cavalry of the French dragoons, the first regiment of each division of Turkish cavalry and the Bengal native cavalry are armed with the lance, as are four Belgian and six British cavalry regiments. This arm is not in use in the United States cavalry. The weapon is from 8 to 11 feet long and is made of oak, bamboo or (in the case of the Uhlans) of tubular steel. It has long been a subject of debate whether the lance or sword is the more effective cavalry weapon; its execution is most deadly in the pursuit of a fleeing enemy.

LANCELET. See AMPHIOXUS.

LANCELOT OF THE LAKE, a name celebrated in the traditions relating to King Arthur or the Round Table. Lancelot was the son of Ban, king of Brucic, and after his father's death was educated by Viviana (the Lady of the Lake). She took him to the court

of King Arthur, to make him one of his knights, and to admit him to the heroes of the Round Table. Arthur with his sword (*Escalibor*) dubbed him knight, and Lancelot subsequently distinguished himself by his great heroism. His love for Guinevere, the wife of Arthur, and his disregard of Morgana, a fairy, and the sister of Arthur, placed the knight in the most dangerous situations, from which, however, he always extricated himself. He finally succeeded to the throne, after having defeated King Claudas, the murderer of his father, but was slain by Mordred, the murderer of Arthur, whom Lancelot wished to punish. In his last moments Viviana appeared and kissed the last breath from the lips of the dying hero, the sole survivor of the Round Table. His remains were deposited near those of Guinevere.

LANCER, a soldier of the European light cavalry, carrying the lance as a weapon. The use of the lance is of mediæval origin although in later European warfare the Cossacks originally used the lance; it was not introduced into regular army regiments until Napoleon made use of it. Lancer regiments have since been incorporated in most European armies. The Prussian regiments so armed are designated Uhlans, while the Cossacks retain their original name with the weapon. There are no lancer regiments in the United States army. The lancer regiments were used effectively in the early stages of the European War, but trench warfare interrupted their usefulness, together with that of other cavalry divisions. The lancer regiments are most useful when the enemy infantry is in retreat, the effect usually being demoralizing.

LANCET-FISH. See SURGEON-FISH.

LANCET WINDOW, a high and narrow window with an arch acutely pointed, resembling a lancet in form. This form of window structure was characteristic of the first half of the 13th century and remained in use in England and Scotland long after the French had perfected the geometric forms. They were often built double or triple and in some instances more than three windows are used together, as in the case of the Five Sisters at York Minster. The groups at Ely and Salisbury are excellent examples of the double and triple types. In the lancet groups the central arch may be higher although this is not invariable.

LANCEWOOD, the wood of a West Indian tree (*Bocagea virgata*), of small or moderate size, but of great usefulness and value, possessing in a high degree the qualities of toughness and elasticity. It is well adapted for the shafts and poles of light carriages, and for all uses where light, strong, elastic timber is required. Both in strength and elasticity it is considered superior to the best ash. The name is also applied to the trees themselves, as well as to several other trees and their wood.

LANCHOW, län'chou, China, capital of the province Kansu, on the right bank of the Hoang-ho and near the Great Wall of China. It is one of the most important cities of interior China, due in part to its situation at the junction of the trade routes to Turkestan, Tibet and Mongolia. The streets of the city are paved with stone, although the buildings are chiefly of wood. The important manufactories are those of woolen and camels' hair goods and ammunition, while a large trade is carried on in silks, silver and jade ornaments, fur, wood-carvings, tin and copper wares, grain, vegetables, fruit and tea. The population is variously estimated at from 100,000 to 500,000.

LANCIANI, lạn-chīā'nē, **Rodolfo Amedeo**, Italian archæologist: b. Rome, 1 Jan. 1847. He received his education at the Collegio Romano and the University of Rome, and in 1878 was made professor of Roman topography in the latter. He attained celebrity by his investigations among the ruins of Rome, is the author of upward of 400 archæological or historical publications, and is a member of many learned societies and a senator of the kingdom of Italy. In 1887 he gave a course of lectures at Harvard University, afterward published with the title 'Ancient Rome in the Light of Recent Discoveries' (1888). Other works of his are 'L'Itinerario di Einsiedeln e l'Ordine di Beneletto Canonico' (1891); 'Pagan and Christian Rome' (1893); 'The Ruins and Excavations of Ancient Rome' (1897); 'Forma Urbis Romæ' (1893–1901), a map of Ancient Rome in 46 sheets on a scale of 1:1000, showing all the excavations; 'New Tales of Old Rome' (1901); 'Golden Days of the Renaissance in Rome' (1906); and 'Wanderings in the Roman Compagna' (1909).

LANCIANO, lạn-chīā'nō (ancient AUXANUM), Italy, city and episcopal see in the province Chièti, eight miles from the Adriatic and 12 miles southeast of Chièti. The city is built upon three hills, two of which are connected by a Roman bridge, and is 984 feet above sea-level. It has an imposing cathedral, with a clock-tower built in 1619. There is a Gothic church erected 1227, and there is a fine rose window, 1362, in the church of the Annunziata. It is the seat of an archbishop, whose palace is built upon the remains of an old Roman theatre. The ancient city was a judicial and civic headquarters under Roman occupation. The modern city has schools, a hospital, gymnasium, library and other progressive institutions. The trade of the city is concerned largely with the products of the surrounding country, silk, wine, oil, fruits and grain, and there are linen and hemp factories. Pop. (commune) 19,917.

LANCRET, län'krā, **Nicolas**, French painter: b. Paris, 22 Jan. 1660; d. there, 14 Sept. 1743. He studied under D'Ulin and later under Gillot who had taught Watteau. Lancret's style was largely influenced by Watteau, for whom he had a great admiration, and while his productions never equalled those of his model, he did excellent work in the portrayal of the gay scenes of the court under the Regency. More than 80 of his paintings have been engraved and the total of his work is immense. He was admitted to the Academy in 1719 and in 1735 he became a councillor. The National Gallery, London, has four of his paintings, 'The Four Ages of Man'; the British Museum has an excellent series of drawings done in red chalk; there are 28 of his paintings in the royal palaces at Berlin and Potsdam, these being purchased by Frederick the Great; there are six in Petrograd, and numerous others in collections, public and private. Consult d'Argenville, 'Vies des peintres,'

and Ballot de Sovet, 'Éloge de M. Lancret' (1843; new ed., 1874).

LAND, in Political Economy. In economic theory as in social fact, land holds a peculiar position, by which the laws normal to other industrial objects are deflected. Foremost is the fact that, it being an indispensable *locus* for all industry or even social existence, its price or rental in a community where all the land is taken up is non-competitive, a monopoly which is also a *sine qua non*, as would be that of air or water, and consequently is always higher than its productive value justifies, or what is the same thing, men are content to receive a less return on their capital invested in it than in any other object. This is of course aggravated in countries where, as in England before 1832, all political privileges are annexed to it, the richest manufacturer having no vote unless he bought land and became a freeholder; less so, but still heavily, in England at present, where it and its tenantry confer great social and political prestige; but most of all in societies like the south of Ireland where there is practically no industry but agriculture, and a footing on the soil at some terms is the one refuge from starvation. Farms there in former days were bid for on occasion at 10 or a dozen times the gross annual produce, because there are no degrees in impossibility, and they could not in any event be deprived of a bare coarse subsistence. But the only countries in which it is on an economic level with other objects are those like America, where there has been an inexhaustible abundance of land to be had at about the cost of surveying and registering title; and here it has been the economic regulator of other prices and wages, which cannot fall below the profit of free agriculture.

The economic discussion over land in England, where freeholds are very difficult to acquire, naturally took the form of an investigation of the phenomena of Rent (q.v.); and an important part of the first economic philosophies was based on a theory of the origin and mutations of the rent charge. According to them it could only exist where there were different grades of soils, and represented the difference in profit of farming better ones over that of farming those just sufficient to make their utilization worth while. In fact, however, even if all soils were alike, rent would still be paid for their hire if the labor and capital could produce more than the rental. Another principle early formulated, differentiating the working of land from other industries, was that of diminishing returns: it was said that labor and capital in any other field produce in exact proportion to their volume, whatever that be,— 10 times the investment producing 10 times the return,— whereas upon the land it is manifestly not so; extra labor produces but a small and rapidly dwindling accretion to the product, till it soon ceases to produce any. Here again there was imperfect observation: two plowings or hoeings would not produce double the crop of one, but double the outlay invested in manures or other fertilizers, loads of loam, etc., often produce very much more than a proportionate extra return. The real difference is, that in other industries the extra outlay can be applied in exactly the same channels, in land it must seek different ones.

Land in this sense refers purely to land used for raising food; where it has other uses, it is subject to the general laws of industry. Land, for instance, on which is located a water-power for manufacturing, or mineral land, if for sale, follows the usual mercantile conditions.

The subject of land belongs under Land Laws; of the single tax, under Taxation; of land nationalization, under Socialism, it being a branch of the question how far it would profit the country to place the entire social machinery under elected instead of self-determined managers; of agrarian difficulties, under the special branches of history concerned — the Roman agrarian contests, for example, shed little light on and are little illumined by the system of peasant distribution in France or the Irish land laws, with its changes from feudal to dual and finally to occupying ownership. For the methods followed in the United States, see PUBLIC LANDS.

LAND BANKS, Massachusetts. Early in the 18th century Massachusetts paper currency had driven abroad nearly all her coin, broken her credit and demoralized her business, and the failure of the Quebec expedition in 1711 carried the embarrassment to a climax. Encouraged by the success of the South Sea scheme in England, some Boston merchants induced the General Court to make the bills of credit of the province legal tender for debts of seven years previous and three years subsequent. Besides this, a number of notable men, including Peter Faneuil, devised the scheme of a bank whose resources should rest on real estate mortgages, to make loans of its own notes; to encourage subscriptions it was proposed that Harvard College should have $1,000 a year out of the proceeds. Governor Dudley opposed it strongly; his son, the Attorney-General, memorialized the General Court against it, and the latter forbade them even to print their scheme till they had laid it before the court, which then refused to incorporate it. To ward it off and produce the same result, at Dudley's suggestion a public bank was founded, with a capital of $250,000 provided by the General Court, to lend bills of credit for five years at 5 per cent, one-fifth to be repaid each year, the whole secured on real estate mortgages. In 1739, with the bad state of the finances increased by the still worse state created by the paper money of Rhode Island, and silver rated at 27 to 1, the project of a land bank was again brought forward. Several hundred persons were to form it; notes were to be issued up to $750,000, the security being a mortgage on each partner's real estate in proportion to his holding, or sureties also possessed of sufficient estate, and each partner paying 3 per cent on the loans made him, in bills or in kind, at a rate fixed by the directors. The House of Representatives was largely favorable, but Governor Belcher denounced it as tending to fraud, disturbance of order and confusion of business, and he set aside the election of the speaker and nearly half the council for connection with the bank, besides displacing many office holders. Despite this, the company began operations, expecting that the notes would circulate readily. They were mistaken: not over $300,000 were issued. But in 1741 Parliament not only extended to the colonies an act forbidding the issue of bills not payable in coin at the end of the term, but made the directors liable to the

holders of the bills for their face with interest. As a large part of them had been issued at a discount, the partners (though many had little to lose) were threatened with ruin, and Parliament had to permit relief measures. One of these partners, who lost all his property, was the father of Samuel Adams.

LAND OF BEULAH (Isaiah lxii, 4), the name of Israel when it shall be married. In 'Pilgrim's Progress' Bunyan uses the term to designate a resting place "where the sun shineth night and day" and where the Pilgrims remain until they cross the river Death to the Celestial City.

LAND BOUNTY. See BOUNTIES.

LAND-BRIDGES ACROSS THE OCEANS. One of the most attractive studies in geology is that of the change in form of the continents, and in the relative spaces of ocean, especially since the continents assumed their present general shape, and especially since the beginning of the Age of Mammals, or Tertiary Period,—that geological period which closed with the Glacial Epoch.

It is plain that during this period millions of years long, many changes occurred in the level of the lands of the globe. Sometimes one or the other of the great masses was lifted, until a much larger expanse of land was out of water than before; then again it would sink until the sea overran broad areas. Geologists know this from the fact that they find rocks which were evidently formed under salt water. By their characteristic fossils, and by other marks, they know where these rocks belong in the scale of geological succession, or time; and by plotting them on a map they can show approximately the shape any continent had at some long-past time. Of course this may not be done for any stage you may ask for, but it can for some of them. Thus in the early part of the Tertiary, while both Americas were in much their present condition, only broader in Canada, Europe was an archipelago of large islands, separated from Asia by a broad sea, and the Mediterranean extended over the Saharan deserts, leaving central and southern Africa as an island. All Persia, Syria and Arabia were then under water, so that the cold Arctic Sea flowed through into the Indian Ocean, which must have made the climate of India and East Africa very much cooler than now.

The most interesting feature of these changes, however, is that by which, now and again, the Old World was connected with the New by necks or spaces of land, known as "land-bridges"; especially as these permitted an interchange of plants and animals, giving to us many new ones from the other side of the ocean, including, finally, man himself.

No more fascinating department of natural history exists than the study of the distribution on the earth of living beings, past and present. A striking result of this study is the knowledge that, while the continents and great islands of the southern hemisphere differ from each other, and from the northern hemisphere, in their plants and animals, the several parts of the northern hemisphere are closely similar in this respect. The same families of trees — pines, spruces, cedars, oaks, maples, chestnuts, birches and so on; and the same sorts of animals — quadrupeds, birds, fishes and insects — are found in Europe and northern Asia as in North America. In fact, many of the living species are virtually identical in all three regions. It is hard to separate the Canadian marten from the Russian sable, our big-horn from the Himalayan argali, our moose and caribou from the elk and reindeer of Norway; and some, like the polar bear, fox and wolf, the raven, golden plover, crossbill, bank-swallow and others, are quite alike in both the Old and the New Worlds. This has been so, judging by the fossils in the various Tertiary strata, ever since the Age of Reptiles.

What is the explanation? None of these animals, save possibly certain birds or fishes, could get across an ocean. They must have been able to travel upon land, and it is from their presence that it seems certain that land-bridges have existed, at various times in the past, between the northern parts of America, and Europe and Asia.

Let us pause here a moment to note what North and South America have to show on this point. South America possesses a fauna which is peculiar to itself. Several large groups there are not represented in any other part of the world, and nearly all its animals in every class, are different from those elsewhere. The fossils show that the same was true in the far past; so that it looks as if that continent has been isolated ever since its life began: only Australia is more self-supplied.

But if South America has always been cut off from the rest of the world (except from North America, at times), where did it get its marsupials? These were numerous there in Tertiary times, and big and little opossums still remain. The only answer is a supposition that at a period when mammals and birds were just beginning to take distinctive form in a world mainly reptilian, both the Australasian islands and South America were attached to an Antarctic continent then far broader than now. An elevation of 10,000 feet above the present level would expose dry land far beyond the Antarctic Circle and include Australia, New Zealand and Patagonia in a South-polar continent; and there is other evidence that such an "Antarctica" existed in Cretaceous and Paleocene times, and that its borders, at least, had a temperate climate.

It is supposed, also, that at the same time, and somewhat later, Brazil and Africa were connected by a ridge, or a chain of islands, since it is hard to account otherwise for the presence of monkeys in South America, which first appeared there in Miocene time, or for certain rodents like those of South Africa. Furthermore, the Atlantic is comparatively shallow and island-studded even now in that narrow part.

Let us return now to North America and its oceanic bridges. These appear, from the data given in the works of Professors Osborn and Scott, to have been repeatedly established and destroyed by alternating elevations and depressions of the land and the sea-bottom, both before and during the Age of Mammals.

At the beginning of the Tertiary Period, continuous land encircled the North Pole. That this would require no very startling change from the present level may be seen by looking at a chart of the northern oceans. This shows

that a broad space extends from Scotland to Greenland, where the water is nowhere more than 1,000 fathoms deep; and that the central part of this is a wide, winding plateau, named Wyville Thomson Ridge, which at the present time comes within 300 or 400 fathoms of the surface. Therefore an uplift of the bottom of the north Atlantic of less than 2,000 feet would extend our coast beyond Greenland and the Banks of Newfoundland, include the British Isles within Europe, drain the Baltic and North seas and connect the two continents by a neck of dry land about 300 miles wide in its narrowest part. There also would appear, probably, a second line of dry land about on the 80th parallel. Both of these, in the warm climate of the early Tertiary Period, would speedily have become covered with vegetation and attract and sustain wandering animals.

On the Pacific side, such a rise would drain nearly the whole of Bering Sea and join Alaska to Siberia by a stretch of mountainous land a thousand miles in breadth. Even 500 feet of uplift would now close Bering Strait.

A moment's thought will show one that a decided, if slow, alteration in the climate of all northern lands must have followed the elevation of these "bridges." The Arctic Sea would then be confined to its own basin, and unable to pour its icy currents into either the Atlantic or the Pacific Ocean. Hence the warm Gulf Stream and its Oriental counterpart, the Japan Current, would, and must, follow a solid coast right around to Europe and western America, respectively, without interference by any cold currents from the north, as at present; and so the whole ocean must have been warmer than now. Hence, we find in the northern coast-rocks of that period remains of tropical sea-animals which could not exist in waters as cold as those of the present day. At the same time solid land extended much farther toward the North Pole than at present, warding off Arctic influences to some extent.

All these circumstances, with others, produced a warm climate in the earlier half of the Tertiary, so that, as the fossil plants of that time show us, tropical conditions prevailed in the United States, and even southern Greenland must have had weather in summer like that of Maryland, for it was clothed with similar plants and hardwood trees.

One may ask: What is the evidence that enables geologists to speak so confidently of the existence of these "land-bridges," since nothing is left of them? It is this:

In the older layers of North American Eocene rocks, all the fossils are of animals peculiar to this continent — families and species which had developed here alone. In the next later layers, however, races of animals suddenly appear, for which no American ancestors can be found, but which are identical with those of the Old World of that time. None of these is much like any present creatures, of course, but the similarity of fossils on both sides of the oceans is so great that it is evident that these animals must then have been able to pass from one continent and colonize the other. The road lay far to the north, but the genial climate kept it open to all sorts of migratory creatures.

There was at this period, also, a broad isthmus between the two Americas, permitting migration north and south as well as east and west, and it is from that time that we date the arrival of many ancient South American animals, one of which still remains — the opossum. Such a condition for world-wide distribution of plants and animals seems never to have arisen again, although lesser migrations have occurred, for "bridges" were submerged and re-established more than once in the subsequent periods.

Finally the advancing world arrived at that comparatively recent stage, just preceding the Glacial Epoch, which is known as the Pleistocene. All land-connections between Europe and Greenland had then sunk under the waves, leaving only Iceland, the Faroës and the Shetlands as monuments to its former situation; but now the basin of Bering Sea was once more drained and an isthmus of dry land, a thousand miles wide, united Siberia with Alaska, and this remained until the disappearance of the continental ice-cap.

It was by this broad path that America became peopled by a large number of the many kinds of animals which formed the truly grand fauna of our country in the Pleistocene Epoch. Only those who have studied the matter realize how rich and varied this fauna was (as compared with the present paucity) in the genial time just preceding the general glaciation. A large proportion of the animals were immigrants; and, as no bridge had existed across the Atlantic for a long time previous, they must have come over from Asia by way of Alaska.

In this way we obtained most of our northern animals — the bighorn and the mountain goat, the bison, such deer as the moose, caribou and wapiti, the bears, the badgers, otters and other fur-bearers, foxes, wolves and a long list of lesser mammals, birds, etc. None of these have American ancestors. In return, America gave to the Old World the horses and camels, which, originating here, passed over into Asia and on beyond, where they survived, in more favorable circumstances, the extinction that overtook their races here. These two also passed into South America, where all the horses died out, but representatives of the camel family remain in the guanacos, vicuñas and their domesticated races; and there came north the cumbersome ground-sloths and other strange early beasts, and, later, such modern ones as the puma, the porcupine and a few others.

But the strangest incident of this nature is that of the elephants which, from the Miocene onward, wandered over North America and finally penetrated to Patagonia. They developed as species and grew in size until at last they resulted in the huge imperial elephant, the mastodon and the mammoth, the last two of which were killed off here, as in Europe, by primitive men. All of these were, as races, immigrants; but from where? It is only within half a dozen years that this question could be answered. "Appearing," says Dr. Scott, "suddenly in the Miocene of Europe and North America; in which regions nothing was known that could, with any plausibility, be regarded as ancestral to them, they might as well have dropped from the moon for all that could be told concerning their history. The exploration of the Eocene and Oligocene beds of Egypt

has dispelled the mystery, and has shown that Africa was the original home of the group, whence they gradually spread to every continent except Australia.» See ELEPHANT.

Such is the world-wide evidence of the existence of «land-bridges» and their lasting effects upon the plant and animal history of the earth.

ERNEST INGERSOLL.

LAND CRABS. Almost all shore-crabs will withstand exposure to the air for some hours without suffering injury, and many of them are regularly so exposed at ebb tide. It is not surprising, then, that some of them have wandered far from the seashore into the fresh-water streams and the moist woods and mountain forests, or even largely forsaken the vicinity of water and established themselves on dry hillsides. The land crabs, par excellence, belong to the family *Gecarcinidæ*, in which the carapace is thick and hard, strongly arched above, rounded, bent downward and truncate in front, and vaulted in the branchial region. The branchial chamber is spacious and lined by a spongy membrane which retains moisture for a long time and thus keeps the gills damp. Six or seven genera and several species inhabit the warmer regions of both hemispheres. One species (*Gecarcinus ruricola*) is common on many of the West Indian islands, is excessively abundant on some of the Bahamas and occurs in southern Florida. They abound at the eastern end of Cuba, and were a source of immense annoyance to the inexperienced soldiers of the United States army in the campaign of 1898 against Santiago de Cuba. On Jamaica and the other larger islands they inhabit a zone in the hills from one to three or four miles from the shore, where they live in burrows beneath stones or under the roots of trees, from which they emerge at night to seek their chiefly vegetable food. They are large, robust creatures with extremely powerful claws, which a pugnacious disposition leads them to use freely. Mating takes place in the spring, and during the rainy season in May a common impulse causes them to migrate in vast armies to the sea, where they bathe and deposit their eggs, which are washed up and buried in the sand by the waves. By resident naturalists and travelers who have observed it, this animal's march to the sea is described as a most impressive sight. Most of the males form an advance guard which is followed in two or three days by the females and remaining males. They are said to proceed in a direct line and to climb over, instead of passing around, every obstacle, even houses. After discharging the eggs, bathing and resting, the crabs return to the hills and in midsummer close their burrows with leaves, grass, etc., and retire to their inmost recesses to moult. At this time, while in the soft-shelled state, they are in high favor for the table, and are dug out of their burrows in large numbers for market. The crabs of this family possess well-developed gills, but in addition the gill-chambers are modified for air-breathing, the lining being thick and well supplied with blood-vessels, and divided by a fold of membrane so as to leave a sort of pocket in the upper part. The Brazilian mangrove-crab shows this especially well.

On Christmas Island, in the Indian Ocean, the soil of the high lands is in some places honeycombed with the burrows of a land-crab (*Geocarcoidea calandi*) that feeds on leaves which are dragged into the burrows. «From their enormous numbers,» says a student of them, «they must play a great part in the destruction of decaying vegetable matter, and its incorporation into the soil.» Once a year, in the rainy season, they migrate to the sea for breeding purposes.

Another family of crabs, the land-hermit crabs (*Cœnobitidæ*), are found on all tropical coasts, and spend most of their lives inland, often climbing bushes and trees. To this family belong the large cocoanut, or robber, crabs of tropical islands.

Even more perfectly adapted to terrestrial life are the many species of land isopods called wood-lice (q.v.); and many of the river-crabs (*Thelphusidæ*), and of the crayfish, are more terrestrial than aquatic in habit. A well-known species of *Thelphusa* in Japan is sometimes met with on mountains at an elevation of 2,000 feet or more above the sea-shore. Consult Kingsley, 'Standard Natural History' (Vol. II); Proceedings of the United States National Museum (1899); Calman, 'Life of Crustacea' (New York 1911).

LAND CREDIT AND LAND CREDIT INSTITUTIONS. Credit accorded on real estate security is short term if the period is nine years or under, and long term if it is 10 years or over. In the United States, however, long term is understood to begin after five years. Usually the principle of short-term loans is payable in lump at the end of the period, but the principal of long-term loans is reducible to final extinction by partial payments at stated intervals during the period. There are two methods for determining the amount of each of such payments, and also two ways of using them for the reduction and extinction of the debt. The amount may be determined by dividing the principal into equal parts by the number of years, or by splitting it into unequal parts and leaving the larger ones to the latter years so that the partial payments, with interest included, may be as nearly even as possible. Each payment is represented by a promissory note drawing interest from date of the loan. This is not an infrequent practice for 10-year loans, and is known as payment by *instalments*.

But the common method of computation is to divide the principal by the present value, at interest compounded at the given rate, of a payment of one dollar at the end of each year for the period of the loan. To illustrate, the present value of a 20-year series of such one-dollar payments at 5 per cent compound interest is $12.46221 — a figure that divides 1,000, for instance, into 80.24 equal parts. Hence, this would be about the annual sum that a borrower would have to pay at the end of each year, in order to extinguish a $1,000 loan at 5 per cent interest within 20 years. If the period is 10 years, he must, by similar reasoning, pay $129.50, while if it is 50 years he must pay $54.77 annually. That is to say, the longer the period the smaller becomes the borrower's annual payment, so that if the period is 81 years it is $50.97, or only a few cents more than the interest alone on the original principal. The borrower's payments determined by this

method are called *annuities*, and the process of paying off a loan by such annuities is called *amortization*.

A variation of this method and process is to require the annuities to be paid at the beginning instead of at the end of each year, and to calculate them accordingly. On a 20-year $1,000 loan at 5 per cent interest the annuity would then be $77.94. But inasmuch as the first annuity is deducted from the face of the loan, the borrower would actually get only $922.06. So if he wished the full $1,000 he would have to borrow $1,084.53 and pay a correspondingly larger annuity. When payments are semi-annual, the interest dates are counted instead of the full years, and only one-half of the annual rate is taken; and so also with quarterly payments. Tables published in various languages give the rates by which the annuity can be computed for amortizing a loan of any amount, interest or period up to 100 years. Tables also show annuities in integral figures, as $25, $50 or $75, but inasmuch as they let the period take care of itself, they are objectionable because of the odd number of years and the fractional payments at the end.

The amortization of loans by annuities supposes that out of each annuity there is taken the necessary part to cover interest on the loan and that the remainder is immediately applied to the reduction of the unpaid principal. The effect is the same as that of the instalment plan; and this is one way to use the borrower's payments for the gradual extinction of his debt. The other way is to reckon the principal as remaining at its original amount throughout the period and to place the payments, less interest, into a sinking fund to be credited with interest at a given rate. If this rate is the same in every particular as that of the loan, there will of course be no difference between these two ways in actual results. But the borrower would be at a disadvantage if the sinking fund's yield were lower than that of the loan; and such is often the case in Austrian savings banks, where this sinking-fund plan is much used and the borrower's payments are kept as a deposit account. Loans, whatever be the manner of payment, attain their land-credit character by the mortgage given by the borrower to secure the performance of his contract. The value of the mortgaged property must at least equal the amount of the loan, and the borrower's title to it should preferably be free and unencumbered. The value and title are determined to the lender's satisfaction. Titles may be guaranteed by companies formed for such purpose. In the United States 19 States have enacted laws, embodying features of the Torrens system, for determining the title expeditiously; but in a number of the Western States the foreclosure laws, by reason of the borrower's homestead and other exemptions and redemption rights, do not permit a speedy collection of the debt in the event of default.

Long-term reducible loans are manifestly not suitable for the individual investor. They are practicable only for institutional investors that can issue their own credit instruments against them and thereby effect the immediate recovery of their funds, despite the length of the loan period. These instruments may be either bonds, like a promissory note, or debentures in the nature of a certificate of indebtedness with or without a date set for payment. Both may be subject to recall at the maker's will and be secured by mortgages held in trust. Debentures, however, usually have no fixed maturity or specific security, but are retired periodically by lot, while the holder's protection is the prior lien of the debentures on all the institution's assets. The length of a loan depends, from the borrower's standpoint, upon the size of the annuity he wishes to pay; from the lender's standpoint, it depends upon the terms and conditions upon which money may be obtained. The institutions for according land credit are either public, semi-public or private. Pure public institutions are those in which government supplies the working funds or the permanent fund, if any, and appoints the executive officers.

In form public institutions are bureaus, commissons or departments of government supported by regular or occasional appropriations, or incorporated bodies with capital or a foundation supplied by government, and with its guaranty, expressed or implied, on any credit instrument they may issue. They are not intended for the average landowner, and they never extend credit without imposing conditions in regard to the person, the rule being that wherever the cash or credit of government is used, the borrower must be in actual need of such help and must swear to apply the loan to the specified object for which it was granted. They were established for breaking up the feudal system, for dividing and alloting large estates, for enabling peasants or workmen to acquire small farms or homes, for promoting interior colonization or settling the public domain, for financing land reclamation, for relieving distress due to war or natural causes, or for meeting problems arising from compulsory military service, absenteeism of landlords, congested population or political emergencies. Government has sometimes subsidized private institutions having such objects. Institutions in which private individuals may hold stock, or participating in profit and loss, and join government in electing the directors and officers are semi-public. Like pure public institutions, they have various forms, and the older ones were authorized by special laws.

The German *landschaften* are a notable type of semi-public institution. There are 23 of these in Germany, and some very loose adaptations of them in Sweden, Denmark, Austria-Hungary and Russia. Formed under special laws enacted at widely different times, they vary greatly in organization and operation. But an outline of the Silesian landschaft (created in 1769 and so the oldest of all land-credit institutions) will give a fair idea of the others. A landschaft is a district managed by an administration whose chief officers are appointed by government upon nomination of resident landowners enrolled as members. The district includes only lands lying outside the towns and cities and is divided into lesser areas, each with a local administration subordinated to the one just above it. The central organization consists of a president, two vice-presidents, a secretary and a treasurer. The local administrations have a similar organization, except the lowest subdivisions where the sole executive officer is a superintendent.

The organization is associational without capital stock or shares. The voting strength of each member is determined by the number and amount of his mortgages. The voting is done in circles, as the lowest subdivisions are called. Members elect the superintendents and also delegates to sit in convention for selecting the nominees for the other offices. Beyond this members have no voice in the management. They cannot dissolve the landschaft nor alter its structure or purpose since it is not formed under articles of agreement, but was established by legislative act. Acceptance of office is obligatory upon election. Members are bound when duly called upon to perform such duties as caretakers, cultivators or receivers of mortgaged farms taken over upon default of loans. Compensation may or may not be allowed them. All members are borrowers, since nobody joins except applicants for loans, and membership ceases upon repayment of the loan. Any qualified landowner is entitled to admission. If his application be refused by the local officers, he may appeal to the central administration, which in all cases must make the final decision.

The loans of the landschaft must be secured by first mortgage on land worth 50 or 40 per cent more than the loan and stocked with enough equipment and domestic animals to assure a production at least equal to annual dues and taxes. The loans are without any other restriction as to amount, use or purpose. They are always long term and repayable by amortization on the sinking-fund plan. A feature, however, that distinguishes the landschaft from other land-credit institutions is that the loans are made, not in cash, but by an exchange of the borrower's note and mortgage for the landschaft's own debentures. The law prescribes $1,000 to $20 as the denominations, and 5 to 3 per cent per annum as the interest rate of these debentures, and gives the borrower the right to select the kind he wants. The annuity consists of the interest on the debentures he selects, plus one-half of 1 per cent of their face; and so the loan and the debentures exactly correspond in amount and interest rate. The borrower undertakes to pay the annuity until his debt is completely extinguished. To this may be added a small charge for expenses during the first 10 or 15 years. Besides the obligatory annuities, the borrower may make voluntary payments as often as he pleases, and tender debentures at par in lieu of cash for all his dues. Defaults are never allowed for longer than six months, since the only money the landschaft has for meeting its obligations on the debentures comes from the loan they represent.

The annuities and other payments by borrowers are placed in the sinking fund as soon as they are received. When the borrower's account therein, after entries of his proportional share of any profit or loss have been made, equals the original amount of his loan, his mortgage is canceled and his membership ceases. This may happen sooner or later than expected. So the period of the loan is somewhat indefinite. No debentures are issued except upon the making of a loan. But the landschaft maintains a bureau for selling them for the borrowers. The sale may be below or above par, and so the interest the borrower actually pays depends upon the market quotation. With the view of protecting investors, the interest date of the loan is set a few months ahead of the interest date of the debentures, while the membership agreement gives the landschaft a right to instant possession of the mortgaged property in the event of default, or even if it deems its claims in jeopardy. Every six months the landschaft must by lot retire debentures up to the amount of cash on hand in the sinking fund, so as to preserve an exact balance between the outstanding amounts of the loans and debentures. For this reason the debentures are made without any fixed maturity, but are recallable at par at the lanschaft's will.

This semi-annual retirement and payment of its own debentures and interest coupons, or the acquisition of the same by purchase in open market or through borrowers tending them for their dues, are the only lawful uses that a landschaft may make of its sinking fund. This fund cannot be reinvested in mortgages. If it should become impaired, the landschaft may levy assessments on all borrowers in proportion to the unpaid principal of their loans, in order to make good the deficiency. Hence, since the borrowers are thus collectively liable on the debentures, they are mutually responsible by one another's defaults; and this continues for two years after membership ceases. In most of the landschafts the liability is unlimited, but in a few others it is limited to some percentage or multiple of the mortgage. The landschafts are not profit-making. Their sole object is to exchange their debentures for the less salable note of the borrower, and so enable him to obtain a loan at a lower rate and on easier terms than he could get through his own unaided credit. Operating in this way, the landschafts have need of no other money than what they receive from the borrowers for paying running expenses and interest and for redeeming the debentures. Consequently their only funds are the sinking fund and perhaps a small reserve to guard against contingencies.

Private institutions are those that are owned, financed and managed entirely by individuals without any assistance or intervention of government, except official supervision. With a few exceptions, they are authorized under general laws and not by special acts. There are three kinds: Companies for insuring or guaranteeing titles or mortgages, bond and mortgage companies, and building and loan associations. The first kind, when they confine their business to their distinctive object, serve rather to expedite than to extend credit. When they extend credit, they follow the methods of other private institutions, and so will not be treated separately. Bond and mortgage companies have fixed capital stocks divided into shares, usually paid in.

The various laws of bond and mortgage companies differ widely in detail and at important points, but their first model was the French legislation of 1852, which contains two master clauses. These are capital stock and surplus must be maintained at a safe ratio to bonds or debentures; and bonds or debentures in circulation must represent first liens on real estate of adequate value and never exceed outstanding loans in either

amount or interest rate. The ratio is never more than $1 to $20. A part of the capital stock or all of an obligatory reserve is set aside as a guaranty fund and kept in liquid investments. The reserve is created out of a portion of the annual earnings. With this exception, a company may invest all its assets, regardless of source, in mortgages and distribute all its profits among shareholders. There is no limit for dividends since the aim is profit. A maximum is sometimes prescribed for capital stock, so as to prevent monopoly, but inasmuch as the capital stock serves not only as a working-fund, but also as a guaranty-fund and must be maintained at the statutory ratio to bonds or debentures, its amount may be increased upon approval or order of the supervising authority.

Generally the companies may extend credit to any class of landowners or on any kind of land designated by the charter or by-laws. The loans may be made for long term payable by annuities, or for short term payable by instalments or in lump, but rarely on the sinking-fund plan. The longest term in France is 75 years. The mortgaged property must have a value 40 or 50 per cent greater than the sum lent upon it and be capable of yielding a durable and certain revenue, which, in the case of long-term loans, must at least equal the borrower's annual dues. If there be a maximum for amount of the loan, it is usually one-tenth of the capital stock. The interest rate must not exceed that borne by the latest issue of bonds or debentures, plus an addition usually limited to one per cent more for costs and profits. Payments on loans are made annually or semi-annually. Perishable parts of the mortgaged property must be insured. The bonds or debentures are issued in series, with dates fixed for payment of principal and interest, but with a provision under which they may be recalled before maturity at a premium; in France prizes are lawful at their redemption. That country also has provided for licensed land-credit companies a special procedure for examining titles.

A building and loan association is an incorporated body with a variable capital; that is to say, a capital which may be increased or decreased by the issuing or canceling of shares, or by payments or withdrawal of payments on such shares. There may be any number of members above the minimum fixed for incorporation. According to the original design, the area of an association was delimited by a radius of a few miles from headquarters, so as to make all operations local. Its powers are to receive members' savings to lend to members for building or acquiring homes. These features stimulate thrift, and for this reason tax exemptions are accorded. The administration consists entirely of members elected by members, the funds all come from members and the facilities are available for members only. The association is, therefore, co-operative.

Shares may be held only by duly admitted members and each entitles the holder to one vote. These are of various kinds. The most common are instalment shares, on which the subscriber makes payments at stated intervals, and investment shares, for which payment may be made in whole or in part at subscription. A *permanent* association may issue shares at any time. A *serial* one may issue shares only in series, and no new shares may be issued in a series after a dividend has been declared, except to subscribers who pay the book value of such shares. Instalment shares are used for loan transactions. A borrower is required to subscribe to instalment shares in an amount equal to his loan. Consequently he becomes liable to twice the amount of his loan for any losses of the association. A first mortgage is given on the house and lot for which the loan was made, and the shares are pledged as an additional security. Non-borrowing members may subscribe for as few or as many shares of any kind as they please. Payments made by members serve to mature the shares. Each share is credited with its proper portion of the profits. At maturity the shares are canceled. If a member is not indebted to the association, he is given their face value in cash. If he is a borrower, this value offsets his debt and his loan becomes paid and his mortgage is canceled, along with his pledged shares. Pledged shares may not be withdrawn until the loan has been fully paid. But the credits on other shares ordinarily may be withdrawn on 60 days' notice.

By reason of this method the loans of a building and loan association are repayable in instalments on the sinking-fund plan, and may run for 10 or even to 18 years. The funds that an association may have for investment are auctioned off to the highest bidder at a regular meeting or at some meeting specially called for the purpose. The sum which the successful bidder pays in addition to the interest rate is called the premium. The law prescribes no limit for this, while entrance fees and fines for withdrawals or defaults may be charged. Hence, the borrower may be required to pay what would be usury in the case of any other institution or lender. In the United States, there are at least 68 premium plans, 25 plans for distributing profits, 12 withdrawal plans and 7 kinds of shares. So many changes have been made in their original scope that the building and loan associations, under the laws in a number of the States, are no longer true to type. This has been brought about by removing restrictions as to area, making shareholding a mere nominal requirement for borrowers and depositors, and permitting the associations to borrow money, issue bonds, incur liabilities with persons not members, and to finance themselves with funds coming from outside sources.

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MYRON T. HERRICK,
R. INGALLS.

LAND GRANT. See PUBLIC LANDS.

LAND GRANT COLLEGES. See EDUCATION, AGRICULTURAL.

LAND HOLDING. See CORPORATIONS, LEGAL.

LAND LEAGUE, an Irish organization founded under the presidency of Charles S. Parnell, but of which the inspirational force was Michael Davitt, which came into being at a meeting held in Dublin, 21 Oct. 1879. The failure of the Irish crops in 1878–79 was followed by distress among the Irish tenant farmers and peasantry; they were unable to meet their obligations, and the numerous evictions which took place were accompanied by outrages. The principal tenets of the association formed to meet this situation were the "three F's"—fixity of tenure, fair rent and free sale (of the tenant's interest); but many speakers at Land League meetings, held in different parts of the country, went so far as to demand that the soil should belong to the cultivator. Opposition by direct violence was deprecated, and recourse was had to boycotting. (See BOYCOTT). This state of things continued till the end of 1880, and was greatly aggravated by the rejection by the House of Lords of the Compensation for Disturbance Bill of that year, when 14 members of the Land League, of whom the most important were Parnell, Dillon, Biggar, T. D. Sullivan and T. Sexton, were indicted. The chief counts were "conspiring to prevent payment of rents, to defeat the legal process for the enforcement of payment of rents, and to prevent the letting of evicted farms." The trial, which took place early in 1881, was a fiasco, but it drew from Justice Fitzgerald the declaration that the Land League was an illegal body. The agitation increased, a coercion act was passed and habeas corpus suspended, and the "No Rent" cry became more frequent. Gladstone denounced Parnell, and soon afterward Parnell, Dillon, Sexton, O'Kelly and the chief officials of the League were arrested and imprisoned in Kilmainham. They issued a manifesto calling on the Irish tenants to pay no rent during their imprisonment. The government replied by declaring the Land League an illegal body, and suppressed its branches throughout the country. All that the Land League had contended for was finally conceded when Wyndham's great land purchase scheme of 1903 was passed into law, and the dual ownership which has subsisted from 1870 was changed into an occupying ownership. Consult Flatley, 'Ireland and the Land League' (Boston 1881); Davitt, 'The Fall of Feudalism in Ireland; or the Story of the Land League Revolution' (London 1904). See IRELAND.

LAND-LOCKED SALMON, a salmon which inhabits an inland body of water and can never go and come to the sea. The term applies in America only to salmon inhabiting certain lakes in eastern Canada and northern New England; and whether these salmon should be regarded as distinct species or merely as representatives of the Atlantic salmon modified to suit their local conditions is a question upon which ichthyologists are not agreed. It is most convenient to follow the distinctions made by sportsmen and regard the land-locked salmon as two species, the Sebago salmon and the ouananiche.

LAND OF NOD (Gen. iv), an unknown land on the east of Eden wherein Cain took refuge. In colloquial and nursery allusion the state of sleep, a land of drowsiness or nodding.

LAND OFFICE OF THE UNITED STATES, a government department charged with the management and disposal of the public lands. On 25 April 1812 it was organized as a bureau of the Treasury Department, but on the creation of the Department of the Interior, it was transferred to the latter on 3 March 1849.

"Under the law, the Commissioner of the General Land Office shall perform, under the direction of the Secretary of the Interior, all executive duties appertaining to the surveying and sale of the public lands of the United States, or in any wise respecting such public lands, and, also, such as relate to private claims of land, and the issuing of patents for all grants of land under the authority of the Government."

The bureau is at present organized in 15 divisions and employs about 1,500 officials. The purchase, location and entry of land is made through local offices, of which there are 100 in continental United States and three in Alaska. As the lands in a district are sold the local office for that district is closed. The office employs a field force for the protection of public lands, to investigate timber trespass, unlawful enclosure, fraudulent entry, etc., or, in general, any infringement of the land laws. The cash receipts of the Land Office during the fiscal year ending 30 June 1917 amounted to $6,149,630.54, consisting of $3,632,021 from disposal of public lands, $2,445,429 from sales of Indian lands, $4,996 from leases of power permits etc., $38,639 from fines for depredations on the public lands, $25,395 for copies of records and plots, and $3,147 from sales of government property. The area of public and Indian lands originally entered during the year amounted to 16,201,794 acres and lands patented to 11,313,362 acres. See PUBLIC LANDS, and consult Donaldson, Thomas, 'Public Domain' (1884).

LAND REGISTRATION. See REGISTRATION OF PROPERTY TITLES; TORRENS LAND SYSTEM.

LAND-SNAIL, an air-breathing terrestrial gasteropod mollusk, or snail of the family *Helicidæ* or some nearly related pulmonate. These mollusks possess a well-developed, usually globose and more or less spiral, horny and brightly colored shell (except in slugs, q.v.), into which the whole animal may be withdrawn, and which has, usually, a lunate aperture, not

closed by an operculum. Four retractile tentacles exist, the upper pair being the larger and possessing eyes at their tips. A distinctly developed so-called «foot» is present. The aperture by means of which air is admitted to the lung-chamber for the purpose of breathing exists on the right side, under the edge of the shell. The mouth possesses an upper mandible of horny consistence and toothed structure, and, as in other gasteropods, there is a tongue or lingual ribbon bearing many teeth. The food is generally of a vegetable nature, and snails are capable of doing great mischief in gardens, but none in the United States is noticeably harmful. The sexes are united in the same individual; but the copulation of two such hermaphrodite individuals is necessary for impregnation, which becomes mutual. The eggs are globular or oval, have coriaceous shells, and are laid singly in damp places, as under leaves, stones, etc.; *Bulimus* (q.v.) is noted for the comparatively large size of its eggs. These eggs and the snails themselves are eaten by birds, turtles and other enemies, especially in the tropics, where land-snails are more varied, numerous and conspicuous than in temperate regions. Some species, however, live in very cold climates, far to the north or high on mountain ranges. Those of cold climates hibernate in winter, creeping into sheltered places, and closing the aperture with one or more air-tight drum-head-like curtains of hardened mucus. In hot and dry places they protect themselves in midsummer against undue loss of moisture in the same manner.

The land-mollusks offer very interesting problems in geographical distribution, as they are easily disseminated and hence widely scattered; and are easily affected by the environment, so that species have developed in very limited areas, as on certain islands and in valleys close to one another yet very distinct in their molluscan faunas.

The family *Helicidæ*, which embraces not only the terrestrial genus *Helix*, but the bush-climbing, long-spired *Bulimus* (q.v.), and several smaller genera, includes thousands of species. Specimens are always most numerous in moist woods and in a limestone region than elsewhere. Many small terrestrial mollusks, properly called land-snails, belong to families other than *Helicidæ*, as the *Orthalicidæ*, *Bulimulidæ* and *Pupidæ*, the last containing many minute American species, not larger than a pinhead, shaped like a grain of rice, and beautifully chased; *Stenogyridæ*, in which are found the great agate-shells (*Achatina*) and sundry others of the tropics; *Succineadæ*, represented by many small, glassy expanded forms of great beauty; and others, some of which contain shell-less and slug-like forms.

Utility of Snails.— Snails have been made of use medicinally in the past, and curative virtues are still attributed to them among European peasants. Among the Romans snails were held in high esteem as articles of food and even of luxury; and special parks or establishments named «cochlearia» were constructed for the purpose of fattening these mollusks. The practice of eating snails has never been very common in England, but Howard, the prison philanthropist, tried to encourage it; Howard cultivated the *H. varronis*, the largest of European species. In modern Europe, as in many parts of France, and in Vienna, especially during Lent, snails are largely consumed, especially among the lower orders. The proletariats of Naples are exceedingly fond of a soup made from *H. nemoralis*. The most valued species among modern epicures is the *H. vermiculata* or little hermit snail, found at Montpelier; and *H. aspersa*, the «garden-snail» of the English, is also regarded as very delicate when properly cooked. *H. pomatia* has a wider range as an edible snail, especially in France, where this species is extensively cultivated for market in appropriate enclosures called *escargotières;* thousands are also gathered from the vineyards and sold in the larger towns of southern France and Italy. The taste for these mollusks has been brought to the United States by immigrants, and in the Italian quarters of New York and other large cities great quantities of living snails are exposed for sale, among other mollusks, in the food-shops. They are also extensively imported in pickle. Consult Lovell, 'British Edible Mollusks'; Cooke, 'Mollusks' (Vol. III, Cambridge Natural History, 1895); Binney and Bland, 'Land and Fresh-water Shells of North America.'

LAND OF STEADY HABITS, a phrase applied to the State of Connecticut.

LAND SURVEYING. See SURVEYING.

LAND TAX, formerly the chief source of levying an income for government uses, but in modern times constituting generally an inconsiderable part of national incomes. Both the Greeks and Romans taxed upon the estimated yield of land in their earliest taxation, but later developments of wealth gave broader sources of income and the land taxes ceased to occupy the place of prime importance in providing a government income, except where agriculture instead of commerce and industry forms the chief occupation of a country.

Rome returned to the land tax as a source of revenue after the decay of the empire destroyed her commerce; and northern European countries depended upon land taxes almost exclusively in their earlier days. The development of wealth in other forms invariably diverts taxation from the land except where it is required, as in many modern instances, for purposes of social or political development.

The French physiocrats and the American single-taxers maintain that the entire source of revenue for government uses should be vested in the taxation of land. While these theories have many adherents the present consensus of opinion among economists is that their application would involve many serious injustices.

More recently special taxation of land for the purpose of preventing large tracts being held in idleness for speculative purposes, and large estates held in unproductiveness, have held the attention of legislators.

In New Zealand, Australia and western Canada taxation of land for the purpose of regulating its use is prevalent.

In the United States the laws of the individual States vary, but the general procedure is the assessment at a uniform rate of all property, including land. There is no Federal

taxation of land, direct taxation being left in the hands of the States. As a rule changes in land taxation in the States are at present employed as a means of preventing the land from being held in idleness, thereby retarding the development of the community as a whole.

LAND TORTOISE, a terrestrial turtle of the family *Testudinidæ*, order *Cryptodira* (see CHELONIA), a family characterized primarily by the possession of a strong box-like shell, completely ossified when young and covered with horny shields, into which the whole body may be withdrawn and in some forms wholly enclosed. The family also contains aquatic and amphibious forms (see MUD-TURTLES; TERRAPIN), but these need not now be considered. American representatives are found in the box-turtles (properly so-called) of the genus *Cistudo*, in which the plastron is connected with the carapace by ligaments and is divided into two movable lobes, the transverse hinge being so perfect that the box can be completely closed after head, legs and tail have been withdrawn. The carapace is high and arched. The common box-tortoise of the United States (*C. carolina*) has become completely terrestrial, and has undergone some interesting structural modifications in consequence, among others a loss of webbing between the toes. It reaches about six inches in length, is highly variable in the arrangement of the blackish and reddish tints of its coloration, and each dorsal shield is nicely sculptured in concentric rings, but these become worn nearly smooth in old age. They wander about the woods, walking with the shell well lifted from the ground, and searching for food most diligently in the evening and early morning and in moderate and moist weather. Their food consists chiefly of snails, slugs, earthworms, crayfish, grubs and the like, together with fungi and a little green stuff. In winter they hibernate, buried in soil or garden rubbish. They are fond of staying in one limited district, are easily tamed and exhibit some intelligence, but individuals differ much in these respects.

The typical land-tortoises, however, are those of the genus *Testudo*, in which the plastron has no hinged, folding part, and the feet are short and webless. The 40 or more species are scattered throughout the warmer parts of the world, excepting in Australasia. The small, convex, highly sculptured «Greek» tortoises of Europe and North Africa, so often kept as garden pets, are familiar representatives. They feed almost wholly upon green grass, leaves and vegetables. The captive made famous in Gilbert White's 'Natural History of Selborne' was one of these (*T. ibera*), and its shell is now preserved in the British National Museum. The gopher tortoise (q.v.) of Florida is a North American species; and a similar widely spread South American species (*T. tabulata*), which lives mainly on forest fruits, is often two feet long.

Gigantic Land Tortoises.—Certain terrestrial tortoises of very large size survived until the Historic Age, and in some cases still exist, on islands in the Indian and Pacific oceans. They are relics of a bygone period, when even larger ones prevailed. Fossil bones in Miocene and Pliocene strata of India, western North America and other parts of the world indicate tortoises of that period whose heads alone must in life have been nearly a foot in length, and beside those giants even the largest of the modern species so-called would look small. The presence of such turtles gave their name to the Galapagos (q.v.) group of islands off the coast of Ecuador, where each of the large islands of the archipelago supported a separate species, but all resembled one another in the relative small size of the head and great length of the neck. «The most peculiar looking are or were *T. ephippium* and *T. abingdoni*, the shell of which is extremely thin, with large lacunæ in the osseous plates. The profile of the shell is saddle-shaped, with the horny shields partly concave and turned upward at the sides. The general color of these and other Galapagos tortoises is black.» Toward the close of the 19th century all that remained of these tortoises were caught and distributed alive to various parks and zoological collections in North America and Europe, where they will be cared for and will probably continue their race. They eat grass and leaves of succulent plants, as lettuce; their food in the Galapagos having been mainly cactus and a lichen (*Usnea*).

Other giant tortoises inhabited the islands of the Indian Ocean until within the historic period, and a few remain in captivity. In 1898 there was still living in England a specimen of *T. sumeiri*, once existing in thousands on the Seychelles, whose history was known since 1766, when it was already of large size. Other species inhabited Madagascar, where they became extinct, prehistorically, Bourbon, Mauritius and Rodriguez. They were utilized as food by the voyagers of the 17th and 18th centuries; were wastefully slaughtered by the European colonists, and carried in shiploads from island to island, until at last none remain but a few captive specimens. Consult Günther, 'Gigantic Land Tortoises' (1877); Gadow, 'Amphibia and Reptiles' (1901); Baur, *American Naturalist* (Vol. XXIII, December 1889).

LAND TRANSFER, Reform in, modern methods of land registration which have replaced the oldtime conveyancing by feoffment, livery of seisin and other primitive methods which were effective in early times. The modern deed gives an accurate description by actual survey of the land, and is legally signed, sealed and recorded; the records being open to the public in the United States. If there are encumbrances or burdens of any sort against the land, these also are recorded. The Torrens system of land registration is in effect in Australia and adaptations of it have come into use in England, the Philippines, Hawaii, California, Colorado, Illinois, Massachusetts, Minnesota and Oregon. Insurance of title is largely used in the United States, this taking the form of the payment of a premium for a private investigation and guarantee of title.

LANDER, Richard Lemon, English African explorer: b. Truro, 8 Feb. 1804; d. Fernando Po, 6 Feb. 1834. He became a domestic servant; in that capacity accompanied Capt. Hugh Clapperton as his servant on his second expedition into the interior of Africa (1825). After Clapperton's death in 1827 he returned to the coast and in 1830 published 'Records of Captain Clapperton's Last Expedition to Africa.' In the spring of 1830 he set out with his brother John to explore the course and termination of the Niger, under the auspices of

the English government, and from Badagry, near Cape Coast Castle, they proceeded to Boossa on the Niger, and after ascending the river for about 100 miles traced its course downward to the sea and proved that it entered the Bight of Benin by several mouths. They were the first also to discover that it was fed by the Benue. Their journal was published in 1832, entitled 'Journal of an Expedition to Explore the Course and Termination of the Niger,' and was translated into several languages. While on a trading expedition in the delta of the Niger, he was wounded by the natives and died soon after. The story of his last journey is told in 'Narrative of an Expedition into the Interior of Africa' (London 1835).

LANDER FEMALE COLLEGE, a Methodist institution of higher education at Greenwood, S. C., founded in 1872. Its faculty numbers 23; the average annual attendance of students is 272. The tuition fees are $50 to $60; living expenses, $140 to $150; the productive funds amount to $10,500; the income, including tuition and incidental charges, is $38,550. The library contains over 3,100 volumes. The number of graduates since organization is 388.

LANDES, länd (LANDES DE GASCOGNE), a tract of sandy marsh land in southern France, on the Bay of Biscay, and covering some 5,400 square miles in the provinces of Landes, Gironde and Lot-et-Garonne. The land is a plateau with sterile soil composed of fine sand on a subsoil impermeable by water. Parallel with the coast are numerous dunes, from 100 to 300 feet high, which, however, have been kept from extending by building a palisade which the sand cannot cross. The land was formerly inundated three-fourths of the year, forming an unhealthy swamp, but in the 18th century the engineer François Chambrelent succeeding in perfecting a system of draining and planting to remedy this condition. One thousand six hundred miles of ditches were dug and 1,600,000 acres were planted with pine and oak. The dunes also have been planted with maritime pines and cork trees, a scheme devised by Nicolas Thomas Brémontier toward the end of the 18th century, which, together with the protecting palisade, prevents the advance of the sand toward the east, and thereby obviates the former steady encroachment upon tillable fields.

LANDES, maritime department of southern France, bounded on the west by the Bay of Biscay. Its area, 3,615 square miles, makes it the second largest department in France, but owing to the fact that three-fourths of its territory is occupied by the Landes (q.v.) marsh and pine lands, it is one of the most sparsely-settled districts in the country. The remaining land is highly fertile, however, and the population draws a considerable part of its income from the cork and pine trees of the marsh lands, which yield timber, resinous products, charcoal and cork. There are also saw-mills, salt works, iron works, stone quarries, brick and tile works and potteries. Mont de Marsan is the capital of the department. Pop. 288,902.

LANDESMANN, län'dĕs-măn, **Heinrich** (pseud. HIERONYMUS LORM), Austrian poet and author: b. Nikolsburg, Moravia, 9 Aug. 1821; d. Brünn, 3 Dec. 1902. Owing to physical deficacy he was privately educated. He became deaf and partially blind in his fifteenth year, and afterward wholly blind. He nevertheless pursued a literary career with marked success. His lyrics are considered the most important of his works, but they are marked by a gloomy spirit. He went to Berlin in his early twenties and there is said to have gained the enmity of Metternich through some political criticism. He was later critic for Kühne's periodical, *Europa*. His writings include 'Abdul' (1843); 'Ein Zögling des Jahres 1848' (1855; later published as 'Gabriel Solmar'); 'Der ehrliche Name' (1880); 'Das Leben kein Traum' (1888); 'Geheimrätin' (1891); 'Nachsommer, neue Gedichte' (last ed., 1901), etc.

LANDGRAVE (German *Landgraf*), a title assumed by certain territorial counts of the German empire to distinguish them from the inferior counts. There were originally three landgraves, those of Thuringia and of Upper and Lower Alsace, who were princes of the empire. The title was assumed by Louis III of Thuringia about 1130.

LANDING FORCE, or **LANDING PARTY**, a permanently organized force composed of infantry and artillery, attached to each ship of a squadron. The service required of a landing force varies from that of police duty in cases where anarchy or revolution may exist, and where there are no other forces at hand, to the hardest kind of offensive warfare on shore. The force is usually comprised of marines, although they may be supported by blue jackets; the landing of marines is a recognized procedure in the way of maintaining order where necessary without bringing up a question of war or invasion such as would arise from sending an army force into a country.

The men are landed in ship's boats and the flotilla is commanded by an officer acting as beach master, who has a sufficient number of armed men to protect the boats in the absence of the landing party, although the boats may return to the ships if they are near at hand. The warships furnish a base of supplies and communication for the landing force and the warships must always be kept open.

A section of a landing force is a unit consisting of one officer, three petty officers and 24 men. Two such sections form a company and two or more companies (not exceeding six) form a battalion. Two or more battalions form a regiment, and two or more regiments form a brigade. In the boats the men are seated in squads, ready to deploy the instant the beach is reached. There are six special details of a landing force, consisting of pioneers, signalmen, messmen, ammunition and ordnance party, guncotton party and ambulance party. The officers are armed with pistols, the men with rifles, and each battalion has two machine guns and one three-inch field piece. Each battleship carries a guard of marines consisting of two officers and about 70 men. In case a larger landing force is required a body of 5,000 marines can be started at 24 hours' notice. They would be carried on their own transports or upon warships.

LANDIS, Kenesaw Mountain, American justice: b. Millville, Ohio, 20 Nov. 1866. He

was graduated at the Union College of Law, Chicago, in 1891, admitted to the bar in that year and engaged in the practice of law in Chicago. He served as private secretary to United States Secretary of State Gresham, and since 28 March 1905 has been United States district justice of the northern district of Illinois. He came into national prominence when presiding at the trial of the Standard Oil Rebate cases in 1907, imposing a fine of $29,240,000. While the decision was set aside by the higher courts it did much to establish a reputation for Justice Landis.

LANDIT, or **LENDIT,** läṅ'dē, (THE FAIR OF), a famous fair held in France in mediæval times. The fair found its origin in the desire of the bishop of Paris to arrange a public display of a reputed fragment of the true cross received by the cathedral of Paris in 1109. The second Wednesday in June was designated as the time when the fragment might be viewed by the people in the open space between Saint Ouen, Saint Denis and Paris. Owing to the gathering of great crowds of people for this purpose a fair was held under the direction of the monks of Saint Denis, and for many years was largely attended. In 1556 the fair was removed to Saint Denis, after which time its importance steadily diminished, and in the 18th century the fair was abandoned. A sheep market was afterward established in its place.

LANDLORD AND TENANT, the relation of renter to rentee; not necessarily of land, except as all dwellings or industries must have land for a *locus,* but of any of its material encumbrances. The landlord need not be the owner; he may himself be a lessee or tenant granting occupancy or use to a subtenant. It is sufficient that his title is superior to that of the one who holds through him. The difference between the latter's interest and that of the landlord is known as the reversion of the latter; but there is obviously no reversionary interest unless the grant is specifically limited to a less volume than the grantor's, and none unless it is inferior in kind. Historically, the relation originated in the practice of infeudation in the Middle Ages, when all holdings were a chain of vassalships, when even kings did homage for portions of their possessions, and no property was held by any but kings, except as vassal to some overlord. The feudal incidents were abolished by the English statute of Quia Emptores in 1290. The modern mercantile relation of lessors and lessees is the creation of statute, judicial decisions and the specific agreements of written contracts.

The mutual obligations of the contracting parties in law are natural consequences of the relation. The landlord on his part must protect the tenant from any other claim of occupancy; must not evict him or suffer him to be evicted and if he does either is liable in damages. He is not, however, under any obligation to protect him against violence, trespass, nuisances or other unlawful acts of outsiders; nor to furnish habitable buildings, usable implements or anything whatever of specific quality unless specially agreed on. The doctrine of *caveat emptor* is also extended to *caveat lessor;* he must form his own conclusions and run his own risks. The tenant cannot question or interfere with the landlord's title, even if the latter be worthless: his own is derived from it, and must stand or fall with it. Nor does any length of occupancy enable him to plead the latter in bar of the landlord's right, by the statute of limitations, under common law; but he very generally can by statute after a certain period, though never till the period of his tenancy has expired. Of old the feudal tenant could do at once much more and much less than this: he could not under any circumstances get the landlord's property into his own hands, but by a legal fiction of which the law sanctioned the use (feoffment or common recovery), he could grant to a third party what he did not himself own, so that the third party could retain it; the wrongful grantor, however, forfeited his own estate to the landlord. Statutes long since abolished these fraudulent conveyances.

The tenant must keep the premises in repair; if he lets them go to ruin or deteriorate from non-use he is liable in damages. By common law he must rebuild premises destroyed by fire; most States of the United States abrogate this right, however. The tenant must not commit waste; but he may cut wood for fire, repairs or fencing, and if he is a tenant at will or for life he has a right to the crops.

Obligations by agreement may of course be almost anything. Stipulation of rent usually forms a part; permission to make improvements not to be removed is most usual, sometimes obligation to make them of certain sorts; and an agreement not to assign the lease without the landlord's permission. The landlord may agree to renew the lease or to pay for improvements, or permit removal of fixtures, etc. An agreement to pay a reasonable rent has been held to be implied without being specified in the lease. All such rights and duties extend to the successors to the parties, including assignees.

LANDMARKS CLUB, The, an association incorporated in California, in 1895, and having for object the preservation of the monuments and historic landmarks of that State. It raises funds through private subscription and in the course of its existence has carried on a State-wide campaign of education for the preservation of the Indian and early Spanish remains in California. Many of the old missions were crumbling until the club instituted the necessary repairs to preserve these interesting relics for posterity. The club has reroofed nearly an acre and a half of mission buildings, repaired and safeguarded full half a mile of mission walls. It has so preserved the most important parts of three of the noblest monuments of California history and romance that they will stand for a century. These are the missions of San Juan Capistrano, San Fernando and Pala. In recent years the work of the club has been greatly extended by the founding of Local Cloisters, each of which concentrates its efforts in its immediate locality. Membership dues are $1 per year and life membership with diploma cost $25.

LANDOIS, läṅ-dwä, Hermann, German zoologist: b. Münster, Germany, 19 April 1835; d. 1905. He entered the priesthood, but in 1859 turned his attention to science, and in 1873 was

appointed professor of zoology at the Academy of Münster and head of the zoological museum. He is the author of 'Sound and Voice Apparatus of Insects' (1867); 'Text-Book of Zoology' (1870); 'Text-Book of Botany' (1872); 'Voices of Animals' (1875); 'Text-Book of Instruction in the Description of Nature,' and other popular works of a like character.

LANDOIS, Leonard Christian Clemens, German physiologist: b. Münster, Germany, 1 Dec. 1837; d. 1902. He is a brother of H. Landois (q.v.), and was educated at the University of Griefswald and had been professor of physiology there from 1872. He was widely known as an original investigator and the discoverer of blood pulse transfusion, and has published 'Le Diagnostique des Malades d s Yeux' (1877); 'Manuel d'Ophthalmoscopie' (1878); 'Traitè complet d'Ophthalmologie' (1886); 'Lehrbuch der Physiologie' (12th ed., 1909), etc.

LANDON, Letitia Elizabeth, English poet, better known by her initial signature "L. E. L.": b. Chelsea, England, 14 Aug. 1802; d. Cape Coast Castle, Africa, 15 Oct. 1838. She wrote much for the then fashionable annuals, and was long popular both as poet and prose writer. In June 1838 she was married to a Mr. George MacLean, and sailed with him to Cape Coast Castle in western Africa, where he was governor. She died there mysteriously soon after her arrival, from prussic acid. Her chief works are 'The Improvisatrice and Other Poems' (1824); 'The Golden Violet' (1827); 'The Venetian Bracelet' (1829); 'Ethel Churchill,' a novel (1837), and 'Traits and Trials of Early Life' (1836), supposed to be autobiographical. Consult her 'Life and Remains,' edited by Blanchard (London 1841).

LANDON, Melville de Lancey ("ELI PERKINS"), American author: b. Eaton, N. Y., 7 Sept. 1839. He was graduated at Union College in 1861, and soon after joined the Union army, from which he retired in 1864, having reached the rank of major. He became a cotton-planter in Arkansas and Louisiana, traveled in Europe, and was for a time secretary of the United States legation at Saint Petersburg. His writings have made him known chiefly as a humorist, but have dealt with serious as well as lighter subjects. He has published 'Saratoga in 1901' (1870); 'History of the Franco-Prussian War' (1871); 'Wit, Humor and Pathos' (1875); 'Wit and Humor of the Age' (1880); 'Kings of Platform and Pulpit' (1887); 'Thirty Years of Wit' (1890); 'Eli Perkins on Money — Gold, Silver or Bimetallism' (1895), and other works.

LANDOR, A. Henry Savage, English traveler and painter: b. Florence, 1865. He is a grandson of Walter Savage Landor (q.v.). He was educated at Florence and in Paris. He has spent many years in travel, visiting in Korea, China, Japan, India, Nepal, Tibet, South Mongolia, Persia, Beluchistan, the Philippine, Azore and Sulu islands, and in Australia, America and northern Africa. He was the first white man to reach the sources of the Brahmaputra River and established their exact position (Tibet 1897); and was also the first white man to explore Central Mindanao Island, there discovering the Mansakas ("white tribe"). He was with the allied troops on their march to Peking in 1900, and was the first Anglo-Saxon to enter Llasa, the Forbidden City. He holds the world's record in mountaineering. Mr. Landor declared the River of Doubt, which Theodore Roosevelt claimed to have discovered in South America, to have no existence. He served as a disptach rider during the European War. Among his writings are 'Alone with the Hairy Ainu'; 'Corea, or the Land of the Morning Calm'; 'A Journey to the Sacred Mountains of Siao-on-tai-shan'; 'China and the Allies' (1901); 'In the Forbidden Land' (1898); 'Across Coveted Lands' (1902); 'The Gems of the East' (1904); 'Tibet and Nepal' (1905); 'Across Widest Africa' (1908); 'The Americans in Panama' (1910); 'An Explorer's Adventures in Tibet' (1910); 'Mysterious South America' (1914).

LANDOR, Walter Savage, English poet and author of prose dialogues: b. Warwick, England, 30 Jan. 1775; d. Florence, Italy, 17 Sept. 1864. The literary life of Landor is among the longest in the history of letters; his first book, 'The Poems of Walter Savage Landor,' appeared in 1795; his last work, 'Heroic Idyls,' came out in 1863. He was the eldest son of Dr. Landor and his second wife, Elizabeth Savage, both of ancient families. As a boy Landor showed great love of reading, was fond of trees and flowers and was known for his physical strength and fiery temper. At school near home and at Rugby, which he entered at 10, he was an excellent Latin scholar, and his rebellion against the somewhat arbitrary dictum of his tutor regarding a Latin quantity was the cause of his rustication in his sixteenth year. Two years later he entered Trinity College, Oxford, where he was known for his sympathies with republican government and whence he was expelled the following year for a boyish freak. This led to a quarrel with his father, and in 1794 he left home. For the next 10 years he lived a somewhat nomadic life, fluctuating between London and Tenby, Wales, with short periods of residence in Bath and other intervening cities, and trying his hand at journalism and poetry. In the former field he wrote rather intemperate articles for the *Courier* against the Tory government then in power; in the latter he did some of his best work. Besides 'The Poems of Walter Savage Landor' already mentioned, there appeared in 1798 his long and vague, but often musical, poem, 'Cebir,' and four years later 'Poetry by the Author of Cebir.' The literary influence to which he was at this time most subject was Milton.

On the death of his father in 1805, Landor succeeded to a goodly property, and began to look about for a country place. Finally in 1809 he bought a large estate at Llanthony in Wales, which he conducted in so high-spirited and unpractical a way that in five years he sunk £70,000 in it and was obliged to give it over to trustees, who made it yield a sufficient income to support him elsewhere. Meanwhile, in 1808, he had with characteristic enthusiasm enlisted with a company of volunteers in the war for Spanish liberty, but after a few months in Spain returned disgusted with the pusillani-

mousness of the leaders. With equal impetuosity he had, in 1809, married Miss Julia Thullier, a young girl 18 years his junior, whom he met at a dance in Bath. Owing to his unevenness of temper and to the commonplaceness of her mind, the marriage proved, in many ways, to be an unhappy one. In a fit of anger, he went to France without her, in 1814, though they had planned the journey together. During this period he published several books, of which the most important is 'Simonidea,' a volume of elegiac verses (1806), some of his Latin poems, 'Idyllia Heroica' (1810), and the tragedy 'Count Julian' (1812).

Settling first in Tours, Landor was there joined the following year by his wife, and the two then went to Italy. For three years they lived at Como and later in various Italian cities, until, in 1821, the Landors made Florence their home. Here they were for eight years, and here Landor, who had done comparatively little literary work except for the finishing of 'Idyllia Heroica' (1820), wrote the books most intimately associated with his name, the 'Imaginary Conversations.' The first of these appeared in two volumes in 1824; this was followed by a third in 1828 and by the fourth and fifth in 1829. Altogether the number of conversations was about 80, which was about doubled during the rest of Landor's life. Though not in any sense popular, they were welcomed by the men of letters of the time. In general they express Landor's reflections and feelings on subjects of high importance. Colvin, in his life of Landor, divides them into two classes, the dramatic, represented by the excellent 'Leofric and Godiva,' and the reflective to which type the majority conform, but in a strict sense none are dramatic, for the reason that Landor rarely expresses more than his own emotion, and though this feeling is often high and noble, it is not to any notable degree historically accurate. The reflective dialogues express Landor's fine thoughts on a great variety of subjects, the character of which is represented by the galaxy of famous men who serve as his mouthpiece. All in all, the 'Conversations' are among the best examples of restrained, polished, classic style that we possess.

In 1829, Landor removed to Fiesole and here, among other works, he wrote 'The Citation and Examination of William Shakespeare,' published in 1834. The book is one of his longer pieces but is not so successful as the 'Conversations' because of its rather labored humor. Nor it is so good as the two succeeding pieces, which Landor planned or wrote in Italy and published after his return to England in 1835. 'Pericles and Aspasia' (1836), his longest single work, is commonly regarded as his most finished production, in regard to beautv of thought and finish of expression. Scarcely, if at all, inferior, however, is the 'Pentameron,' the record of a five-days' visit of Petrarch with Boccaccio, a book which contains some of Landor's most mature criticism, as well as the most charming of his descriptive passages, the narrative of Ser Francisco's visit to church. It is on these perhaps as much as on the more miscellaneous 'Conversations' that Landor's fame chiefly rests, though the latter by reason of their earlier appearance and the novelty of their form are more commonly coupled with Landor's name.

Landor's work after 1837 is comparatively unimportant, and except for some articles to Leigh Hunt's *Monthly Repository*, a satire, and some "Hellenic," supplies little new in type. The most conspicuous volumes were 'Last Fruit of an Old Tree' (1853), containing conversations and miscellaneous work, 'Dry Sticks, Fagoted by W. S. Landor' (1858), and 'Heroic Idylls' (1863).

Criticism is in substantial agreement that Landor occupies a high but not a pre-eminent place in 19th century letters. The excessively cultivated nature of his subjects, the comparative scantiness and restraint of his production, and the fact that his style is conspicuous for rhetorical graces rather than for natural warmth or broad sympathy, keep him from attaining the highest position either as a poet or as a prose writer, but as the master of polished prose and the writer of isolated passages he has few superiors. See IMAGINARY CONVERSATIONS; PERICLES AND ASPASIA.

Bibliography.— The standard life is that by John Forster (2 vols., 1869), now forming the first volume of the standard edition of the works (8 vols., 1876). Colvin's life in the 'English Men of Letters' is good; it supplies a good list of authorities on Landor. Leslie Stephen's essay ('Hours in a Library,' Vol. II), and Vernon Lee's 'The Rhetoric of Landor' (*Contemporary Review*, Vol. LXXXIV, p. 856, 1903), should be consulted.

WILLIAM T. BREWSTER,
Professor of English, Columbia University.

LANDOUZY, lāń'doo'zē', **Louis Joseph Théophile,** French physician: b. Rheims, 27 March 1845. He was educated at Rheims and at the Medical School in Paris, and was graduated there in 1876. In 1880 he was appointed to the faculty of the Medical School and since 1880 he has been professor of therapeutics and materia medica there. He became a member of the French Academy of Medicine in 1893. He has made many contributions to medical literature. Among his works are 'Sur la Tuberculose Infantile' (1875–78); 'Sur la myopathie atrophique progressive,' with Dejerine (1886); 'Sur les Paralysies dans les maladies aigués' (1880); 'Recherches sur les causes de l'ataxie locomotrice progressive' (1882); 'Glossaire medical' (1902); 'Médicine Allemand et médicine Français, in les Allemands et la Science' (1916), etc.

LANDRAIL. See CORNCRAKE.

LANDRETH, Burnet, American agriculturist: b. Philadelphia, 30 Dec. 1842. He was educated at the Polytechnic College, Philadelphia, was captain of infantry during the Civil War, serving in the Army of the Potomac, and since the war period has devoted himself to the promotion of higher agricultural and allied interests in many important fields of service. He was chief of the Bureau of Agriculture at the Centennial Exhibition, director-in-chief of the American Exhibition in London and is a member of many American scientific societies; also holds honorary membership in similar bodies in European countries, in India and in Japan; and is Chevalier and Officer du Mérite Agricole de France. He founded and is president of the Association of Centenary Firms of the United States and is head of the seed-house of D. Landreth & Sons, established in 1784 in Phila-

delphia. He has published several works on agricultural subjects.

LANDRETH, David, American agriculturist: b. Philadelphia, 1802; d. Bristol, Pa., 22 Feb. 1880. He was privately educated and joined his father in the seed and nursery business, devoting himself to matters of public interest in agricultural and horticultural lines after he became head of the firm. He was one of the founders of the Pennsylvania Horticultural Society in 1827 and acted as its corresponding secretary in 1828–36. He was president of the Philadelphia Society for the Promotion of Agriculture and established the *Illustrated Floral Magazine* in 1832. He wrote numerous articles on agricultural and horticultural subjects and edited with additions Johnson's 'Dictionary of Modern Gardening' (Philadelphia 1847).

LANDRY, Auguste Charles Philippe Robert, Canadian author and statesman: b. Quebec, 15 Jan. 1846. He was graduated from Laval University in 1866; then took a course in agricultural science at the College of Sainte Anne and devoted himself to farming. He served for several years in the militia, rising to the rank of lieutenant-colonel. In politics he is allied with the Conservatives; he was a member of the Quebec assembly (1875–76); was elected to the Canadian House of Commons in 1878, where he served till 1887, when he was defeated at the general election; in 1892 he was called to the Senate. He became president of the Quebec Exhibition Company in 1894, is a member of several agricultural societies and was elected president of the Council of Agriculture in 1896. He has written 'Traité populaire d'Agriculture théorique et pratique' (1878); 'L'Église et l'Etat' (1883); and numerous papers on political and scientific subjects.

LANDS, Public. See PUBLIC LANDS.

LAND'S END, England, a headland in Cornwall, about 60 feet in height, consisting of granite cliffs bristling with sharp fangs of rocks somewhat resembling the back of an alligator, which forms the southwestern extremity of England. There is a lighthouse on the rocks, called Longships, about a mile to the west. Here is the entrance to the English Channel from the Atlantic Ocean.

LANDSBERG, Max, American rabbi: b. Berlin, 26 Feb. 1845. He was educated at the universities of Göttingen, Breslau and Halle and at the Jewish Theological Seminary at Breslau, becoming a rabbi in 1870. From 1871–1914, when he retired, he was in charge of the Berith Kodesh congregation at Rochester, N. Y. He was governor of the Hebrew Union College at Cincinnati, Ohio, and in 1911 he was president of the 12th New York State Conference of Charities and Correction. He published 'A Ritual for Jewish Worship' (1884; 3d ed., 1910).

LANDSBERG - AN - DER - WARTHE, länts'-bĕrk-ăn-dĕr-vär'tĕ, Germany, city in the province of Brandenburg on the river Warthe, 80 miles northeast of Berlin. The town has important iron foundries, engine and boiler factories. It manufactures tobacco, cloth, leather, spirits, furniture, bricks and other commodities, as well as carrying on a trade in the produce of the neighboring country. The town obtained civic privileges in 1257. Pop. 39,339.

LANDSCAPE, in painting: a picture presenting a view of natural scenery as it appears within the range of vision from a single point of observation, with or without figures of men or animals. The landscape is essentially modern in its evolution, the Greeks ignoring it in their absorption with the human figure; the Roman and Pompeian wall-paintings are the nearest approach to landscape painting afforded by classic art. The Odyssey landscapes, now in the Vatican Library, and the pictures of a garden painted upon the walls of an apartment in the villa of Livia at Prima Porto near Rome, are the best of the remaining examples of the art as practised by the Romans.

In Christian art the landscape makes a late appearance, but Giotto (1267–1337) under the influence of Saint Francis of Assisi makes use of natural scenic effects as backgrounds. It was not until the beginning of the 15th century, however, that the modern landscape made its appearance in the Flemish and Italian schools of art, and even then the landscape was subordinate to the figure interest. Fra Angelico makes use of actual copying from nature, preceding efforts being largely comprised in certain typical objects such as rocks, clouds, trees or buildings. Leonardo makes use of landscape backgrounds and Raphael is amazing in the diversity and harmony of his adaptations of natural scenery in his backgrounds. Michelangelo, on the other hand, ignored the landscape in art and held it and its admirers in contempt. Andrea Mantegua follows Raphael but his work is far from possessing the grace which characterizes that of his successor, Correggio. In the Venetian school the beauties of nature received more enthusiastic representation, and the Bellini, Giorgione and Titian, particularly the latter, are considered the founders of the modern landscape. The pupils and followers of Titian accorded the landscape ample consideration in their compositions, among them being Tintoretto and Veronese. Canal and Guardi follow and are considered the last of the Venetian schools. In the southern Alps, Salvator Rosa showed considerable power in reproducing the wilder aspects of nature and had a considerable influence in the development of the art.

In the northern countries of Europe, as in Italy, painting was a later development of art, following sculpture and architecture. The miniatures were the precursors of landscape in Flemish art and the first great impetus to the use of nature in painting was given by the van Eycks (1380–1440). Roger van der Weyden, H. Memling and Gheerardt David complete this period of Flemish art, reaching perhaps the greatest attainments in landscape painting in the 15th century. Later Flemish painters were attracted by the glamour of the Italian Renaissance and the distinctiveness of the old Flemish school was temporarily submerged. The work of Bernard van Orley, however, showed originality and genius; and the influence of the true Flemish art was apparent, likewise, in the productions of Herri de Bles and Patenier. Brueghel follows with excellent work and one of his sons was notable, as were Paul and Matthew Bril. Rubens did,

not paint landscapes until late in life and then was largely influenced by Titian; but in Ruben's work appears the notable innovation of portraying the changes in the sky. Later in the development of Flemish art were Brouwer, a pupil of Frans Hals, Jacques d'Arthois, Cornelis Huysmans and Jan Siberechts.

The landscape in German art originated at Cologne in the work of Stephen Lochner and reached its greatest heights in the productions of Albert Dürer of Nuremberg. Dürer showed originality and power as an interpreter of nature and stands alone in German art. It is nearly a century later that Adam Elsheimer comes into prominence, after which interval, strife appears to have suppressed art for a considerable period.

In the early days of French landscape painting it is difficult to distinguish between the miniaturists and the painters. Jean Fouquet of Touraine practised both arts. The work of French artists was also considerably influenced by the presence in France of both Flemish and Italian art colonies, and the attraction Italy held for French painters had a powerful influence over the development of early French painters. Among the greatest of the early painters was Poussin, although his success came in Italy, and after him came Claude Lorraine whose work presents much of the grander aspects in nature with wonderful effects of space and atmosphere.

The earliest of the Dutch landscape painters were Mabuse and his pupil Jan van Schoreel through whom Utrecht became a centre of art. They were followed by Abraham Bloemaert and Cornelis van Polenburgh, the latter of whom founded the style known as the Arcadian landscapes. Like that of other countries the Dutch school was largely influenced by Italy where numerous Dutch painters studied and often remained. Among those settling in Italy but really belonging to Holland were the brothers Andries and Jan Both. Jan Asselyn and Nicolas Berchem also lived and worked in Italy although of Dutch origin. Karel du Jardin, Vermeer, Pieter de Hooch and Michiel Carre were among the pupils of Berchem. Pieter Molyn, Esaias van de Velde and Jan van Goyen also became great names in the Dutch school where political changes and a Protestant religion were largely instrumental in forcing the painters into the field of landscape painting as affording a patronage lacking in other lines. Salomon Ruysdael and Allart van Everdingen were really the originators of the Dutch school of art which chose its own peculiar but very adaptable country for portrayal with lasting effects in the world of landscape painting. Hobbema follows with the Cuyps, Paul Potter, Adrian van de Velde, Phillips Wouwerman, Emanuel de Witte and Jacob Ruysdael, the latter of whom in some of his landscape compositions rivals and even surpasses Rembrandt. The Dutch school found its culmination in Rembrandt who raised to its highest art the presentation of a simple stretch of landscape, although Rembrandt showed his originality in landscape painting later than in other work. The Dutch school was decadent after Rembrandt.

The Spanish school of art rose with the decline of Spain's greatness among the nations. Zurbaram is the first among Spain's landscape painters, followed by Velasquez and his contemporary, Francisco Collantes, and then Murillo.

The 18th century saw the development of landscape painting in England with Richard Wilson, a Welshman, as its first great exponent. Gainsborough's work foreshadowed greater developments although with him the landscape is subsidiary to the portrait. Thomas Barker, known as "Barker of Bath" was among the early landscape painters of England, and John Crome, "Old Crome," was one of the founders of the school of English landscape. Constable, while influenced by the Dutch, was sound in principle and was the originator of innovations in light effects, furnishing inspiration later to the Barbizon school and so influencing much of the later art of Scotland and Holland. J. M. W. Turner possessed a range in the field of nature perhaps wider than any of the landscape artists, and while perhaps some of his work may be criticized for effects which were the outgrowth of a peculiar temperament he left a mass of exceptional creations covering an extraordinary variety of subjects, many of them among the finest extant.

In the more modern French school, Watteau, Oudry, Boucher, the three generations of the Vernet family, Hubert, Robert and Honoré Fragonard produced a type of decorative landscapes not hitherto attempted, and this romantic group was succeeded by the Barbizon school upon which the sound principles of Constable had so material an influence. In this later group the effects of nature were combined with a poetic idealism. The list of later French painters is lengthy and distinguished, including Georges Michel, Louis David, D. Ingres, Delacroix, Richard Parkes Bonnington, Paul Huet, Alexandre Decamps, Camille Flers and Corot; as well as Eugene Isabey, Rousseau, Charles Jacque, Millet, Diaz, Jules Dupré, Louis Cabat, Prosper Marilhat and François Couchet.

French influence has been of powerful effect in recent landscape painting, originating the Barbizon and the Impressionist methods. The Glasgow school and the Cornish school of Newlyn, in Great Britain, have also exercised wide influence.

In America landscape painting has come under a considerable amount of criticism as being of European origin and coming under European influence. Considering, however, the European origin of American civilization, and the interchange of ideas and influences to be traced among the exponents of the art of landscape painting in Europe the criticism becomes captious rather than otherwise. It was not until the 19th century that landscape painting gained any real foothold in America although the landscape background for portraits was occasionally employed. The Hudson River school of landscape painting was the earliest effort in this direction, the pioneer being Thomas Doughty. Others were Thomas Cole, Asher B. Durand, J. F. Kensett, William and James MacDougal Hart. These and others specialized on scenery of the romantic character of the Hudson and its environs and brought much criticism through their too great attention to detail and the panoramic character of their canvases. Of a later group F. E. Church

painted subjects ranging from Labrador to South America, and Thomas Moran and Albert Bierstadt felt the lure of the Rockies. Succeeding this earlier group came George Inness, Alexander H. Wyant, Homer Martin and Henry W. Ranger whose art is of unexceptional quality even though admittedly somewhat under the influence of the French school. Later are Ralph S. Blakelock, Albert P. Ryder, Horatio Waller, Winslow Homer, Paul Dougherty, Allan B. Talcott, Alexander Harrison, F. W. Benson, J. Alden Wier, W. L. Lathrop, Colin Campbell Cooper, Willard L. Metcalf, Albert L. Groll, Leonard Ochtman, Dwight W. Tryon, Frederick Ballard Williams and others who are doing earnest work. Of those influenced by the Impressionist school, Childe Hassam and John W. Twachtman are notable as producing work of strength and originality. Winslow Homer, while a marine rather than strictly a landscape painter, is considered typically original in his work; and while Whistler, Sargent and Alexander use landscape effects only in subordination to their portraits the character and distinctiveness of their work is unquestioned.

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LANDSCAPE ARCHITECTURE. «Landscape architecture is primarily a fine art, and as such its most important function is to create and preserve beauty in the surroundings of human habitations and in the broader natural scenery of the country; but it is also concerned with promoting the comfort, convenience and health of urban populations, which have scanty access to rural scenery, and urgently need to have their hurrying, workaday lives refreshed and calmed by the beautiful and reposeful sights and sounds which nature, aided by the landscape art, can abundantly provide.» (C. W. Eliot).

Very early in his history man shaped the economic changes which he made in the earth's surface so that they gave him also an æsthetic satisfaction. This satisfaction was due in great measure to the fact that the changes were obviously man-made; they bore witness that he had impressed his ideas on the stubborn natural material. Much later in his development — almost, it might be said, in modern times — came the period when man, instead of being isolated and overpowered in the midst of wild nature, found himself cramped and oppressed by the works of his own hands, and sought relief in the æsthetic pleasure to be derived from landscape which expresses not man's will but the operation of natural forces. The province of landscape architecture is so to guide man's modification of the landscape that he may get the greatest possible æsthetic satisfaction of one or both of these two quite different kinds. The resulting beauty might be, at one end of the scale, that of the formal surroundings of a palace — architecture in natural materials to show man's magnificence — or, at the other extreme, that of a woodland solitude — apparently an age-long natural growth — a place of rest from all the works of man. Within comparatively recent years, there has come a general recognition of the value to the public of designed and organized cities, and of parks, reservations and other out-of-door spaces, and a greatly increased interest in private pleasure-grounds of various kinds. There is now an effective demand for designing skill using as materials ground forms and vegetation, and for designing skill in the arrangement of landscape and architectural forms — streets, parks, buildings — in larger unities, for public use. This demand has been met by the rise of a separate profession, because the materials and technique of this new field are not those of the older allied professions of architecture and engineering, and are quite as difficult to master within an ordinary lifetime.

Like architecture, its sister profession in the fine arts, landscape architecture requires of its practitioner diverse abilities not often found in the same person: the æsthetic appreciation and creative power of the artist, together with the executive skill of the business man. The landscape architect should know the materials of his art; ground forms, vegetation and structures in their relation to landscape. He should know on the one hand what results are physically possible of accomplishment with these materials, and on the other hand what kinds of beauty were better attained in the materials of some other art. Since, for the most part, the landscape architect cannot produce at will in his design all the forms which he might desire, but must choose from among the forms offered by nature those which will suit his purpose, he cannot be confident that

his design is possible of execution unless he possesses an accurate first-hand knowledge of the plant materials and of the ground forms from which he must choose the elements of his composition. Since the beauty of vegetation is that of intricacy, of multiplicity, of growth and change, the landscape architect's experience and power in design will come to be quite different from that of the architect, who deals with definite, rigid forms and balanced masses. In his formal designs in close conjunction with buildings the type of beauty which he seeks will not be widely different from that sought by the architect. But since the fundamental organization of his naturalistic designs, of his preservation and enhancement of natural scenery, will be the real or apparent manifestation of the untrammeled forces of nature, the landscape architect who would attempt such design must have humbly studied the forces which carve the valleys, and which direct the flow of the streams, and he must be keenly sensitive to the æsthetic unity of a mountain or the perfect growth of a ground-covering fern, which may dominate or decorate his nature-inspired work.

Historic Styles of Landscape Design.— In studying existing works of landscape architecture we find that we may consider in groups works which produce a similar effect on the beholder on account of a fundamental similarity in their organization; and this similarity of organization comes in the case of each group from a similarity of conditions under which the examples in the group were brought forth, — conditions, namely, of their physical environment and material, of the people who made them, and of the purposes for which they were produced. We find that the various historic styles of landscape design which have been differentiated have taken their names usually from the peoples which originated them and the countries in which they arose, occasionally from an individual whose name was associated with certain definite pieces of work which were the first examples of the style, and, rarely, from the total æsthetic effect produced by the style; for instance, Italian style, style of LeNôtre, Romantic style. From the point of view of the fundamental ideal expressed by the designer, styles of landscape design fall into two classes, those which express the dominance and the will of man and those which express the designer's appreciation of the power and beauty of nature. We may call the styles in the first of these categories humanized and those in the second, naturalistic. Since giving an object geometrical form is a common and obvious way of making it express man's will, the term formal has often been used in the sense of man-made or man-dominated, but the two terms are not synonymous, for there are many informal designs which nevertheless are definitely and obviously humanized. The hand of the designer and his artistic achievement may be recognized as fully in this design as in man's formally-arranged compositions. The following review may serve to suggest how the most clearly characterized historic styles have taken form, each under its own circumstances.

The Egyptians have left us records of their gardens, which in their early form were inner courts with fruit and ornamental plants, but later were extended outside to larger rectangular areas, formally planted. The Babylonian gardens are known to have been terraced, commanding extensive views, as in the case of the famous "hanging gardens" of Babylon, and cooled and decorated by water features. In ancient Persia, again, water was a leading element in the enclosed gardens, which were made pleasant and grateful to the dwellers in the hot and dry climate by shade and fruit, and were usually adjacent to an extensive thickly-planted wilderness or park. The "groves" and orchards of the Greeks reflect the immediate influence of Persia on the treatment of outdoor areas after the Persian wars. Classic pleasure-grounds, however, find their highest development in the Roman villas, for instance, Pliny's Laurentine and Tusculan villas, and Hadrian's at Tivoli,— carried out as splendid architectural schemes, and with regard to the advantages of cool breezes, view, shade and the decorative beauty of water and statuary. In the Middle Ages we find in the monasteries gardens primarily utilitarian, of which Saint Gall, with its four areas of fruit, vegetables, herbs and flowers, is perhaps the most famous example; and correspondingly for the pleasure of the inhabitants of the castles, as feudal life became less war-like, the terrace walks along the castle walls grew into enclosed separate gardens furnished for outdoor enjoyment. Meanwhile in the Far East landscape design had been developing to a high degree of definiteness and finish. Chinese gardens, said to date from earlier than 2000 B.C., took the form of miniature landscapes, carefully designed and enclosed; and with the spread of Chinese culture the Japanese took suggestion from these landscape gardens of China and ultimately produced styles of garden design which expressed their reverence for nature, wrought out, conventionalized and symbolized by successive generations of artists, in forms of great intrinsic beauty. The Moorish gardens in Spain had for their direct prototype the gardens of Persia and Syria. They were patios surrounded by buildings, shady, cool, full of the scent of flowers, and the splash and sparkle of running water. The gardens were necessarily a part of the architectural scheme, both being in a clearly marked style which molded the culture of Spain, and through the Spaniards influenced the style of the buildings and gardens of Mexico and California. The villas of the proud, powerful, ostentatious, artistic nobles of the Italian Renaissance were based on the design of the gardens of the old Roman patricians and served a mode of life not very different. They were usually the unified work of one designer, often a well-known architect or sculptor, and the style of the garden designs reflects the rise and development of the style of the Renaissance in the other arts. The villas were set on steep-sided hills facing the open view and the cool breeze. In earlier times the design was simple,— the main building and its terrace being the centre of a scheme of gardens with still pools, and statues and fountains, often of great sculptural excellence. In later times the villas became more conscious architectural schemes of axial relation, of decoration less for intrinsic merit than for general effect. Throughout the three centuries of their

development there was shown in the villas a feeling for the beauty of water, displayed in increasingly ingenious ways, for the relief of shade and its contrast in design with open sunlit spaces, for the inspiration of the open distant view, and a feeling, never as yet elsewhere equalled, for effective formal design in materials of architecture and vegetation. In France, England and Holland the Renaissance called forth an expression of architectural design in outdoor areas, stimulated by Italian influence, which flowered in different periods. The Dutch had their small, trim, topiary gardens; the English their Tudor and Elizabethan country estates with pleasant flower gardens, stretches of turf, and homely kitchen gardens, enclosed one next to the other; and the French had their great open parterres and large gardens, consisting of different treatments of rectangular units more or less intervisible,—precursors of the work of Le Nôtre. Coincident with the later Renaissance, but springing from Persian influence through the Mogul dynasty, a style of garden design was produced in India, which, as in other hot climates, utilizing shade and flowers and fruit, and water in long pools and splashing fountains or waterfalls, covered areas so great that the designs rival in magnificence those of the Grand Style in France. Le Nôtre's work at Versailles expressed the power of France and the magnificence of Louis XIV. Built on flat ground, the gardens produced the effect of great extent with recognizable unity and variety of open and wooded areas by the use of allées, here for the first time employed at so great a scale, separating one bosquet from another, connecting various points of interest, forming vistas large and small centred upon the architectural and sculptural decoration of the scheme. Next the garden façade of the main buildings, a great terrace decorated with water basins or carpet-bedding, served as a foreground to the architectural design. This formal design in the "grand manner" extending its influence all over Europe, even into Russia, and often carried to extremes by incompetent designers, invited a reaction toward the inspiration of Nature. The Landscape Style, originating in England where it was expressed in the work of Kent and Brown, was influenced deeply by the work of such landscape painters as Claude Lorraine and also somewhat by ideas introduced from China. It spread to France and to other parts of the Continent with the Romantic movement and fell later into extremes as unfortunate as any of those of formal design. It substituted the formless for the formal, and the Romantic symbol for æsthetic unity, before it settled to the more rational landscape style of Repton in England and of Pückler-Muskau in Germany. The work of Repton and his followers inspired the park-like estates in America with which Downing was familiar and the tradition of which he followed in his designs, laying, however, increasing emphasis on the use of native vegetation. At the time of his death in 1852, the industrial growth of the United States had begun to cause congestion in towns, and Downing was a leader in the movement to ameliorate the life of townDwellers by the provision of public parks.

It was reserved for Calvert Vaux and Frederick Law Olmsted to develop to meet this need a style of naturalistic landscape design which has had the most profound influence on the work of the last 50 years,—compositions of open meadows enclosed and diversified by woods, in which the public may find a sense of seclusion and of relief from the insistence of urban surroundings. In Central and Prospect parks in New York and Franklin Park in Boston we have this style at its best. The work of H. W. S. Cleveland extended the park movement in the West, and at the same time through his writings he pointed out the necessity for the application of the principles of landscape architecture to the planning of new towns. Charles Eliot, a disciple of Olmsted and later his partner, continued the naturalistic tradition, and is especially known for his activities culminating in the park system of Boston, which has influenced extensively the park development of America. The private place design of the United States in the last half century has also deeply felt this same influence. Large estates have been treated like parks; very small estates have in some of the best examples approached a style not unlike the Japanese, though less small in scale. Simple informal plantings have been the accepted treatment in many communities, and have naturally enough often degenerated in unskilful hands into meaningless curvilinear beds and needlessly indirect paths. In America there has also been a tradition of garden design dating from the colonial period,—gardens of trim hedges and fragrant flower borders, often overhung by fruit trees, usually near the houses and closely adapted to the uses of their owners, and often pleasantly naïve in expression. With our present increasing appreciation of colonial art there has been a revival of outdoor design inspired by this period. As the number of country estates of wealthy owners has increased in America, we have followed also the examples of English gardens and Italian gardens, originally designed for requirements somewhat similar to ours. And also, both in America and in England, has arisen a comparatively new style,—the wild garden, the rock garden, the pond garden and so on,—an attempt to produce at small scale, and usually with a certain amount of symbolism almost Japanese, some striking type of wild nature. Quite different in spirit is the work of the last 25 years in Germany, which, expressing in formal terms the needs of the German family for outdoor living, is consciously differentiated from all previous styles of landscape design. When handled by a designer with some inborn sensitiveness to beauty of form, this modern German work has great interest, but in many cases even some of the Germans themselves would admit that unhappy æsthetic results have arisen from their conscious seeking for an independent style peculiar to German "kultur." The modern landscape architect has in the examples of the styles of the past a treasury of inspiration and information to aid him in his present work; but he should study these styles not as an archæologist, not as a copyist, but as a workman providing himself with tools for future original use. He should endeavor to see how in each case the designer met a particular and individual problem; he should feel a brotherly and human interest in the way his predecessor has adapted

means to ends, and he should thus get from an example in any style some inspiration for his own work however different its circumstances might be.

The Professional Practice of Landscape Architecture in America.— Not until recently has there been in this country sufficient demand for the services of the trained landscape architect to make it possible for any considerable body of men to carry on the practice of this profession. The American Society of Landscape Architects was founded in 1899, the first degree for the accomplishment of a designated collegiate course in landscape architecture was granted in 1901. But now (1918) professional degrees are offered by at least six institutions in the United States, and the field and scope of the profession and the technical knowledge which its practitioners should possess are being differentiated with considerable clearness from the tangent fields of other professions like architecture and engineering. The general principles of the proper professional conduct of a landscape architect are in effect the same as those governing the action of the architect, and are not essentially different from those relating to the work of the engineer, because they are fundamentally the principles of common honesty applied to the relations of a man who sells skilled advice to a client, who directs for the client the carrying out of this advice, and who serves as arbiter as to the meaning of these directions between the client and the person who does the construction. According to the constitution of the American Society of Landscape Architects, "A landscape architect, a landscape gardener, or a landscape designer, in good standing is one who practises the art of arranging land and landscape for use and enjoyment, whose compensation is received directly from his client and not directly or indirectly from labor, plants or other material used in fitting land for use, or from persons supplying the same." The broadest field of professional activity in which the landscape architect finds himself most frequently in co-operation with practitioners from other professions is the field of city planning, where the landscape architect works in collaboration with engineer, architect, sociologist, economist or lawyer. Unlike the case of co-operation of architect and landscape architect in the design of a building and its grounds, the delimitation of field in city planning cannot be territorial, but must be according to the subjects in which the various collaborators are severally skilled. It is, therefore, doubly important that each collaborator should appreciate the point of view of the others, and that all should have at least a sound fundamental conception of the subject of city planning as a whole. This necessity of collaboration and mutual comprehension and the fundamental value of the contribution of the landscape architect in such a collaboration have been made especially plain in the case of government industrial housing projects for war workers during the European War, where the determination of the physical arrangements of the communities was arrived at usually by such a co-operation of professional skill.

Typical Problems of the Landscape Architect.— The landscape architect tries to meet the demands of each problem with a design which, though almost necessarily sacrificing some factors which are theoretically desirable, combines on the whole the maximum of æsthetic and economic excellence possible for him to create under the particular circumstances. These circumstances are the local conditions of topography, soil, climate and so on, the financial means available, the preferences of those whom the landscape architect serves as to the appearance and expression of the design and the economic uses to which the design is to be put, with their resultant fixing of the sizes and shapes of many parts of the composition. Beauty of appearance may be sought in many different ways, and where one kind of beauty proves to be impossible with the sizes and shapes necessary to be used in the design, another kind may be attained, perhaps at a different scale and with a different æsthetic expression. No two problems are ever exactly alike, but each typical well-defined use of the land has its more or less characteristic effect on the composition, no matter what the other circumstances may be. The ordinary work of the landscape architect falls, therefore, into classes most readily according to use. Some of the types of landscape designs which naturally occur in the practice of landscape architects in our time and in our condition of society are the garden, the private estate, the "land subdivision" or development of land for residential use, the country club and country hotel grounds, the grounds of colleges and institutions, hospitals and other public or semi-public building groups, the grounds of public buildings, exposition grounds, amusement parks, zoological parks and botanical gardens, cemeteries, playgrounds, the smaller intown parks, the larger country parks on the outskirts of our cities and the great landscape reservations, State and national, scattered throughout the country which are now being recognized as having a peculiar worth.

As man has more and more greatly utilized natural resources, the amount of actually wild landscape has decreased, and in our time it is decreasing at an enormously accelerated rate, so that the unhampered expressions of nature's forces remain only in inaccessible and inhospitable places, and even there they are rapidly passing away before the blind destructive power of man's enterprise. A possession of inestimable value to mankind is thus becoming in our country so rare that we are beginning to appreciate its preciousness, and the responsibility rests largely upon the landscape architects of this generation to see to it that the best of the scattered remnants of natural character and natural beauty, which we still have left to us, are preserved for the recreation and inspiration of the future generations. Almost within the memory of living men has come the effective conception of the city as a complete organism which must provide for its inhabitants such things as they cannot provide for themselves for complete and efficient living; and with this conception has come the realization of the importance to the individual, and so to the community, of beauty, and especially of outdoor beauty, and the duty which the community has to provide it. This duty has been put before the community very definitely in these times, not only in the housing for war workers in this country, but especially in the reconstruction of cities and countrysides destroyed in the war.

We are now coming to see that this same conception of a complete functional organism applies as well to the State and to the nation; that the lands of the nation should be studied as to their various fitness to all the purposes which land may serve, and then so regulated that each may best serve that purpose, economic or æsthetic, to which in the general nation-wide scheme it is best fitted.

Bibliography.— Some of the most important general books on landscape architecture which have influenced the development of the art are Whately, T., 'Observations on Modern Gardening' (1770); Hirschfeld, C. C. L., 'Theorie der Gartenkunst' (1775–80); Repton, H., 'Sketches and Hints on Landscape Gardening and Observations on the Theory and Practice of Landscape Gardening' (1794 and 1803); Loudon, J. C., 'An Encyclopædia of Gardening' (1822); Prince von Pückler-Muskau's 'Andeutungen über Landschäftsgartnerei' (1834; now available in a recent English translation); Downing, A. J., 'Treatise on the Theory and Practice of Landscape Gardening' (1841); André, E., 'L'Art des Jardins' (1879); Van Rensselaer, Mrs. Schuyler, 'Art out-of-doors' (1893); and the biography by his father of 'Charles Eliot, Landscape Architect' (1902). Of recent general works should be mentioned Meyer and Ries, 'Die Gartenkunst in Wort und Bild' (enlarged 1914); Parsons, S., 'Art of Landscape Architecture' (1915), and Hubbard, H. V., and Kimball, T., 'An Introduction to the Study of Landscape Design' (1917). In this last book will be found a selected list of references on landscape architecture, which gives fuller bibliographical information for all the titles here mentioned and many others, arranged by subject for professional usefulness. The Boston Public Library Catalogue of the Codman Collection of Books on Landscape Gardening (1899) contains a large number of titles of the older works.

Among the books treating the history of landscape architecture Gothein, M. L., 'Geschichte der Gartenkunst' (1914) stands out most conspicuously both in comprehensiveness of scope and wealth of source-material consulted. In English, Triggs, H. I., 'Garden Craft in Europe' (1913), and the compilation 'Gardens Ancient and Modern' (1885), also published as 'The Praise of Gardens,' ed. by A. F. Sieveking (1899), together with Miss Rose Nichols' 'English Pleasure Gardens' (1902), include an historical survey of European gardens to show their influence in England, and Mrs. Van Rensselaer's series of historical articles in *Garden and Forest* (1889–90), will be found useful. Noteworthy treatises on historic styles of landscape design in special countries are for England, the garden histories by the Hon. Alicia Amherst and George W. Johnson; for France, the works of MM. Fouquier and Stein; for the Netherlands, Van Sypesteyn, 'Oud-Nederlandsche Tuinkunst'; for Japan, Josiah Conder's work; for India, Mrs. Villiers Stuart, 'Gardens of the Great Mughals'; and for the American colonial gardens, Grace Tabor, 'Old-Fashioned Gardening.'

On the theory of landscape design and appreciation, Abel, L., 'Aesthetik'; Hamerton, P. G., 'Landscape'; Marcus, H., 'Die ornamentale Schönheit der Landschaft'; Migge, L., 'Gartenkultur'; Schneider, C. K., 'Landschaftliche Gartengestaltung'; Marquis de Girardin, 'De la Composition du Paysage'; Price, Sir U., 'Essays on the Picturesque,' and Sitwell, Sir G., 'An Essay on the Making of Gardens,' repay study; and also Hubbard and Kimball's 'Landscape Design' mentioned above.

The books on the design of estates and gardens are legion, and similarly abundant are descriptions of famous parks and gardens in various parts of the world. The titles of some of these works by such writers as Alphand, Blomfield, Jekyll, Kemp, Mawson, Muthesius, Robinson, Schultze-Naumburg, Sedding, Triggs and others are to be found in the bibliographies already mentioned. Current professional literature is noted in the quarterly *Landscape Architecture* (official organ of the American Society of Landscape Architects), which contains articles by eminent practitioners, as did the earlier periodical *Garden and Forest* (1888–97).

HENRY V. HUBBARD,
Assistant Professor of Landscape Architecture, Harvard University.

LANDSCAPE GARDENING. See LANDSCAPE ARCHITECTURE; HORTICULTURE.

LANDSEER, SIR Edwin Henry, English animal painter: b. London, 7 March 1802; d. 1 Oct. 1873. Hampstead Heath was the scene of some of his early studies, and on one of his early productions now at Kensington his father has written "at the age of five." Following the advice of Haydon he studied the Elgin Marbles and the wild beasts at Exeter Change and dissected every animal whose carcass was obtainable. His life is the record of his works and successes. In the Academy's exhibition for 1815 he exhibited the 'Portrait of a Mule' and the 'Heads of a Pointer-Bitch and Puppy.' In 1818 he contributed several studies of animals to the Academy and the British Institution. In that year a picture exhibited at the exhibition of the Oil and Water Color Society in Spring Gardens, 'Fighting Dogs Getting Wind,' attracted great attention and set a seal upon his work. In 1820 he painted his 'Dogs of St. Gothard.' In 1821 he exhibited 'Ratcatchers,' a 'Prowling Lion' and other works of great spirit. In 1822 he received the premium of £150 from the British Institution for the 'Larder Invaded.' The 'Cat's Paw' appeared at the Academy in 1824 and was sold for £100. In 1826 he was elected A.R.A., and in 1831 became R.A. In 1827 he exhibited 'The Return from Deer-Stalking'; a 'Fire-side Party,' 1829; 'High Life' and 'Low Life,' 1831; 'Spaniels of King Charles' Breed,' 'A Jack in Office,' 1833; 'Bolton Abbey in the Olden Time,' 1834; 'The Drover's Departure,' 1837; 'The Return from Hawking' and the 'Shepherd's Chief Mourner,' 1837; a 'Distinguished Member of the Humane Society' and 'There's Life in the Old Dog Yet,' 1838; in 1840, 'Laying Down the Law'; in 1844, 'Coming Events Cast Their Shadows Before,' and in 1846, 'The Stag at Bay'; in 1849, 'The Forester's Family'; in 1850, 'A Dialogue at Waterloo'; in 1851, 'A Scene from the Midsummer Night's Dream'; in 1853, 'Night and Morning' and 'The Children of the Mist.' His later works include 'Saved,' 'Deer-Stalking,' 'A Flood in the Highlands,' 'A Random Shot' (the most

pathetic of all his works), 'Wild Cattle at Chillingham,' and his celebrated work of sculpture, the Lions in Trafalga Square. Landseer's pencil was productive, and besides many works not here named he produced portraits of celebrities of the time, that of Sir Walter Scott being in the National Gallery. In 1850 he was knighted; in 1855 he received the gold medal of the Paris exhibition. He declined the presidency of the Royal Academy offered him on the death of Sir Charles Eastlake (1865).

Landseer, notwithstanding his notable work in portraiture, was essentially an animal painter, his success being in fur rather than in flesh. Down to about 1823 he was content to reproduce the natural expression and characteristics of animals, but after that date, at the sacrifice of genuine artistic qualities, his animal pieces are treated with more or less pictorial effects, with the idea of enforcing the analogy between the character of men and dogs. Dogs and deer are his favorite subjects. His draughtsmanship is facile and elegant, and he was exceedingly rapid in execution. He held a distinguished place in the society of his time, but his abnormal sensibility made him in his later years acutely liable to fits of mental depression due to imagined slights by social superiors. Consult Graves, A., 'Catalogue of the Works of Sir Edwin Landseer' (London); Mawson, J. A., 'Landseer' in 'Makers of British Art' (London 1902); Monkhouse, Cosmo, 'Studies of Sir Edwin Landseer' (London); Stephens, F. G., 'Sir Edwin Landseer' (ib. 1880); Sweetser, M. F., 'Landseer,' in 'Artist Biographies' (Vol. III, Boston 1878).

LANDSHUT, länts'hoot, Germany, capital city of lower Bavaria, on the right bank of the river Isar, and 40 miles by rail northeast of Munich. From 1255–1503 the town was capital of the duchy Bayern-Landshut, and in 1800–26 it was the seat of a university. There is a fine Italian Rennaissance palace built in the 16th century, and near the town is the ancient castle of Trausnitz, once a seat of the dukes of lower Bavaria. There are 11 churches, one of which, a Gothic brick edifice, dates from 1392 and has a tower 435 feet high. The Cistercian nunnery of Seligenthal, founded in 1232, is near the city, and has a church built in 1729–38. The city is important for its manufactures and markets. Pop. 25,137.

LANDSKRONA, läns-kroo'nȧ, Sweden, a fortified seaport town on the east side of the Sound, 15 miles northeast of Copenhagen. It has a castle which was completed in 1543 and is now used as a prison, and opposite the town on the island of Hven is the famous subterranean observatory of Uranienborg, built by Tycho Brahe in the 16th century. The modern town ranks 12th in the manufacturing industry of Sweden, leather and sugar products being of chief importance. There are coal mines in the neighborhood and the town possesses an excellent harbor 35 feet in depth. The harbor was the scene 24 July 1677 of a great naval battle in which the Swedes were victorious over the Danes. Pop. 16,130.

LANDSLIDE, or **LANDSLIP,** the slipping or sliding of land, through the failure of supporting strata, from its original position. They are due to a variety of causes. Water, particularly in its changing forms through frost and thaw, is the chief agent in their production. The wearing away of supports by water, the cracking of underlying materials by summer droughts and the rending of existing crevices by the thawing of water frozen in them are some of the commonest modes by which they are brought about. Sometimes a mass of land resting on an inclined bed slides for a considerable distance before it is arrested by a level surface; thus, in 1772, the Solway Moss, loosened by excessive rains, rolled over 400 acres of cultivated land, reaching in some parts to the roofs of the houses. The fall of the Rossberg in Switzerland and the slip at Charmouth, near Lyme Regis, are other familiar instances. In 1902 in British Columbia a remarkable landslide occurred destroying an entire mountain village and causing the death of nearly 100 persons.

"Landslide" is a term employed in United States political phraseology to denote the crushing defeat of a political party in an election, and especially of the overwhelming defeat of the party in power, as for example, the Democratic landslide of 1890 and the Republican landslide of 1896.

LANDSMAN, in the United States navy an enlisted man who is not in the seaman branch of the service, but takes the rating of third class seaman. Persons possessing a mechanical trade may be enlisted up to the age of 30 years instead of 25 years as in other branches of the service, and a landsman enlisted for a special position must have the fact recorded on his service card. Originally the term embraced the lowest rating in all branches of the enlisted force of the naval service, but latterly the term has been confined to men enlisted in the artificer or special branches, while in the seaman branch the lowest rating is that of apprentice seaman. The pay in peace times is $17.50 a month; in wartime and for six months thereafter, $32.50 a month.

LANDSTAD, länd'ştąd, **Magnus Brostrup,** Norwegian bishop, folklorist and poet: b. near North Cape on the island of Maasö, 7 Oct. 1802; d. Christiania, 8 Oct. 1880. He was educated for the ministry and became minister at Seljord, where he lived until his retirement in 1876, after which time he resided in Christiania. His literary activities were confined chiefly to versification of folklore and to the composition of hymns. His 'Norske folkeviser' (1851–53) comprised about 130 poetic versions of folklore, set to music by Lindeman. He, together with Andreas Faye, was a pioneer in the classification of Norse folklore. Landstad made a translation of the hymns of Luther (1855) and he also compiled a book of hymns, 'Kirkesalmebog,' which in 1869 was adopted for use in the Norwegian churches and which contained some 60 hymns of his own composition. He also published 'Digte og sange' (1879), and 'Gamle sagn om Hjartdölerne' (1880).

LANDSTURM, länt'stoorm (land storm, land uprising), in Germany, a local militia, consisting of two levies or bans, the first embracing all males liable to service but as yet untrained of age from 17 to 39, and the second all men, trained or untrained, from 39 to 45. See LANDWEHR.

LANDWEHR, länt'vär ("national defense"), in the German Empire, a term applied

to that part of the military force of the state which is not kept constantly under arms, but during peace follows ordinary trades, and is only summoned into active service on the breaking out of war or some internal emergency. It was first organized by Prussia in 1813, and was extended to all states of the German Empire in 1871. On leaving the reserve of the regular army the soldier spends 12 years in the Landwehr, after which he is transferred to the Landsturm (q.v.). In Austria and Hungary the Landwehr, which form cadres alongside the regular army, was reorganized in 1889. In Switzerland the years from 32 to 40 are spent in this force, after which discharged men are drafted to the Landsturm, in which they remain for eight years, thus terminating their military service.

LANE, Alfred Church, American geologist: b. Boston, 29 Jan. 1863. He was graduated at Harvard in 1883 and studied at the University of Heidelberg in 1885–87. He was instructor in mathematics at Harvard in 1883–85; petrographer of the Michigan Geological Survey and instructor in the Michigan College of Mines in 1889–92; and assistant, then State, geologist of Michigan in 1892–1909. Since 1909 he has been Pearson professor of geology and mineralogy at Tufts College. He was a delegate to the International Geologic Congress in 1913. Besides numerous articles he is editor and part author of various reports on geologic surveys in Michigan and Canada as well as those of the United States Geologic Survey.

LANE, Edward William, English Orientalist: b. Hereford, 17 Sept. 1801; d. Worthing, Sussex, 10 Aug. 1876. Owing to a breakdown in health he went to Egypt in 1825, lived the life of its people and adopted the dress of the country. In 1836 he published 'Manners and Customs of the Modern Egyptians,' a book which bears on every page the stamp of authenticity. His next work was the first accurate version and one of the most famous translations of the 'Arabian Nights' (1838–40). This work was the first translation of consequence into English, which was made directly from the Arabic, all previous translations having been made through the French. It contained valuable illustrations and numerous scholarly and indispensable notes. The translations of Burton and Payne were subsequent to it. The world is indebted to him for many valuable works on Egypt and especially for his 'Arabic-English Lexicon' (1863–74), which cost him 30 years of unremitting labor, the expense of production being generously undertaken by his friend, the 4th Duke of Northumberland. The succeeding parts came out from 1877 to 1892 under the editorship of S. Lane-Poole, the whole forming a dictionary indispensable to the students of Arabic. (See ARABIAN NIGHTS). Consult his 'Life' by S. Lane-Poole (London 1877).

LANE, Franklin Knight, American Cabinet officer: b. Prince Edward Island, Canada, 15 July 1864. He removed to California in early childhood and was graduated at the University of California in 1886. He was engaged for a time in newspaper work and in 1889 was admitted to the bar of California. He practised law in San Francisco, where in 1897–1902 he was city counsel. He was active politically and in 1905–13 served on the Interstate Commerce Commission, receiving his appointment from President Roosevelt. In 1913 he was appointed Secretary of the Interior in the Cabinet of President Wilson.

LANE, George Martin, American educator: b. Charlestown, Mass., 24 Dec. 1823; d. Cambridge, Mass., 30 June 1897. He was graduated from Harvard in 1846 and after four years at the universities of Berlin and Göttingen returned to America and became professor of Latin at Harvard in 1851. He held this chair until 1894 when he became professor emeritus. He published 'Latin Pronunciation' (1871) in which he contended for the continental pronunciation of the language as against the «English method.» He left unfinished a Latin grammar, completed by Morgan (1898). The famous ballad of 'The Lone Fishball' was written by Professor Lane.

LANE, Harry, American legislator: b. Corvallis, Ore., 1855. He was graduated at the Williamette University in 1876 and engaged in the practice of medicine at Portland, Ore. He was superintendent of the Oregon State Insane Asylum in 1887–91, and was mayor of Portland in 1905–09. He was elected to the full term in the United States Senate in 1913. He is an advocate of government ownership of telegraphs and telephones. In the debates on the Armed Neutrality Bill, Senator Lane greatly incensed his constituents by taking part in the filibuster of 5 March 1917 against the bill.

LANE, Henry Smith, American politician: b. in Montgomery County, Ky., 24 Feb. 1811; d. 1881. He studied law, and was admitted to the bar; removed to Indiana in 1832, and while engaged in his profession became prominent in Whig politics. After serving as State senator (1837), he was twice elected to Congress (1838 and 1840), and in the Mexican War lieutenant-colonel of an Indiana regiment. The dissolution of the Whig party was followed by a preliminary organization which led to the formation of the Republican party, and in this movement Lane was conspicuous, acting with other leaders who planned the first Republican national convention, held in Philadelphia in 1856, and of which he was permanent chairman. A coalition of Republicans with members of the disappearing American party in 1859 elected him to the United States Senate, but after a contest he was unseated in favor of his Democratic competitor. He was elected governor of Indiana in 1860, and in the same year became United States senator, serving one term.

LANE, James Henry, American politician and soldier: b. Lawrenceburg, Ind., 22 June 1814; d. Leavenworth, Kan., 11 July 1866. He was admitted to the bar in 1840, enlisted as private in an Indiana regiment in 1846, served in the Mexican War, became colonel and at Buena Vista commanded a brigade. Returning from the war, he was elected lieutenant-governor of Indiana; from 1853 to 1855 was a Democratic representative in Congress; in the latter year removed to Kansas, joined the Free-State party, acted as president of the Topeka and Leavenworth constitutional conventions and became major-general of the Free-State forces. In 1856 the Free-State legislature

elected him to the United States Senate, but he was not allowed to sit. He was a prominent actor in turbulent scenes, and was twice indicted, once for treason and again for murder: on the second charge he was tried and acquitted. In 1861 Kansas was admitted to the Union and Lane was elected United States senator, but entered the Federal army and in the same year was appointed brigadier-general of volunteers, serving with ability until March 1862, when his commission was canceled. The "Great Southern Expedition" from Kansas (1861–62) and other military schemes of the period were conceived by Lane, but came to nothing. As commander for recruiting in the Department of Kansas (1862) he came into collision with the State authorities and was charged with attempted usurpation. In 1865 he was again elected to the United States Senate, suffered from paralysis in the following year and died by his own hand.

LANE, Jonathan Homer, American mathematician: b. Geneseo, N. Y., 9 Aug. 1819; d. Washington, D. C., 3 May 1880. He was graduated at Yale in 1846 and entered the United States Coast Survey in 1847. He was appointed assistant examiner of the United States Patent Office in 1848 and was principal examiner in 1851–57. In 1869–80 he was connected with the Bureau of Weights and Measures in Washington. He was a member of the Coast Survey's expedition to Des Moines, Iowa, to observe the total solar eclipse in 1869, and to Catania, Spain, in 1870. He invented a machine for finding the real roots of the higher equations; a visual telegraph; an improved basin for mercurial horizon; a mechanism for holding the Drummond light and reflector on shipboard, etc. He published 'On the Law of Electric Induction in Metals' (1846); 'Report of the Solar Eclipse of 7 Aug. 1869' (1869); 'Theoretical Temperature of the Sun' (1870); 'Coefficients of Expansion of the British Standard Yard Bar' (1877), etc.

LANE, Joseph, American soldier and politician: b. Buncombe County, N. C., 14 Dec. 1801; d. Oregon, 19 April 1881. In 1816 he went from Henderson County, Ky., to Warwick County, Ind., where he was for some time clerk in a mercantile establishment, and in 1822–46 served in both houses of the State legislature. He resigned from the senate in 1846 to enlist as a private in the 2d Indiana Volunteers, was soon commissioned colonel of the regiment, and in the same year was promoted brigadier-general. He was wounded at Buena Vista, defeated Santa Anna at Huamantla and was brevetted major-general, U. S. A., for this service. After the Mexican War he was appointed governor of Oregon Territory, was Democratic delegate from Oregon to Congress in 1851–57, defeated the Rogue Indians at Table Rock in 1853 and in 1859–61 was a United States senator. He was nominated for the Vice-Presidency in 1860 on the unsuccessful Breckenridge ticket. He then retired from public life and lived at his ranch in Oregon for the rest of his life.

LANE, Sir Ralph, English administrator in America: b. Northamptonshire, England, about 1530; d. in Ireland, 1603. His early life was spent in maritime adventure; in 1583–84 he held a command in Ireland, in 1585 took the direction of the colony that Raleigh was establishing in Virginia, sailed in that year in the fleet commanded by Sir Richard Grenville and was left with 107 colonists at Roanoke Island, while the fleet returned to England (25 August). He was thus the first governor of Virginia. The location proved unsuitable, provisions ran low and there was trouble with hostile Indians. On 19 June 1586 the colony sailed for England in the fleet of Sir Francis Drake. In 1589 Lane was a colonel in Drake's expedition against Portugal, and in 1591 helped to quell a rebellion in Ireland. It is regarded as not unlikely that he and his companions first brought tobacco and potatoes to England. Letters by him may be read in Hawks' 'History of North Carolina' (1857); and in Hale (editor), 'Archæologia Americana' (Vol. IV 1860). Consult also his 'Account of the Particularities of the Imployments of the Englishmen left in Virginia,' printed by H. S. Burrage in 'Early English and French Voyages' (New York 1906).

LANE, Ralph Norman Angell (NORMAN ANGELL), Anglo-American author: b. England, 26 Dec. 1874. He was educated at the Lycée de Saint Omer, France, and at Geneva, Switzerland. He came to the United States in 1890 and engaged in ranching, prospecting and newspaper work. In 1898 he returned to Europe as Paris correspondent of several American newspapers, serving in this capacity until 1900, when he became editor of the *Daily Messenger* in Paris. In 1905–15 he was general manager of the Paris *Daily Mail*. He is famous as the author of 'The Great Illusion' (1910) which has appeared in England, America, France, Germany, Holland, Denmark, Sweden, Spain, Italy, Russia, Japan and China, and in Hindu, Bengali, Urdu, Marathi and Tamil. The Garton Foundation was established in London in 1913 for the dissemination of Angell's ideas of a modern world state. Among his other writings are 'Patriotism Under Three Flags' (1903); 'Europe's Optical Illusion' (1909); 'War and the Essential Realities' (1913); 'The World's Highway' (1915); 'The Dangers of Half-Preparedness' (1916), etc.

LANE, William Coolidge, American librarian: b. Newton, Mass., 29 July 1859. He was graduated at Harvard in 1881 and was assistant librarian there from 1887 to 1893, when he became librarian of the Boston Athenæum, continuing in that position until 1898, since when he has been the librarian of Harvard University. From 1886 to 1900 he served as secretary and treasurer of the publishing board of the American Library Association, in 1898–99 was president of the association and since 1899 chairman of the publishing board. From 1904 to 1909 he was president of the Bibliographical Society of America.

LANE-POOLE, Stanley, English archæologist and historian: b. London, 18 Dec. 1854. He is a nephew of E. W. Lane, the Orientalist (q.v.). He was educated at Corpus Christi, Oxford; in 1874–92 was employed in the coin department of the British Museum; was sent by the British government on archæological missions to Egypt (1883) and Russia (1886); was employed by the Egyptian government in archæological research at Cairo (1895–97); and

from 1898–1904 was professor of Arabic in Trinity College, Dublin. He has published in all over 70 volumes, among them being 'Social Life in Egypt' (1883); 'The Moors in Spain' (1887); 'Saracenic Egypt' (1900); 'Mediæval India' (1902); and 'The Story of Cairo' (1902). He also edited many volumes and prepared the extensive catalogue of the Oriental and Indian coins in the British Museum (1875–92); 'North and by North' (1903); 'The Thousand and One Nights' (3 vols., 1906).

LANE THEOLOGICAL SEMINARY, a divinity school founded at Cincinnati, Ohio, 1829. It was opened for students three years after its foundation and its endowment amounts to about $500,000; it income $20,000; it has 8 instructors and 57 students. Although it is under the control of the Presbyterian Church it receives students from other reformed bodies. No tuition fees are charged, board is low and there are 40 scholarships, each of the value of $2,000. The college stands on a lot of 60 acres donated by Elnathan Kemper in 1829; there are five professors' houses and a library containing over 23,000 volumes. Two clubs are maintained, the General Society of Alumni and the Lane Club.

LANESSAN, Jean Antoine de, zhŏn ăn-twän dė län-ĕ-săn, French naturalist and publicist: b. Saint André-de-Cubzac, Gironde, 13 July 1843. He entered the health corps of the French marine service, after studying medicine at Bordeaux, and was engaged as surgeon on the coast of Africa and China until the Franco-Prussian War. He was elected to the National Assembly in 1881 and came into notice as a Republican journalist. Being interested in colonial matters he was appointed governor-general of Indo-China in 1891–94; and his writings have done much to promote French colonization. He was Minister of Marine in the Waldeck-Rousseau Cabinet, 1899–1902. His principal works are 'De Protoplasme végétal' (1876); 'La Matière, la Vie et les Etres Vivants' (1879); 'L'Expansion Coloniale de la France' (1888); 'Principes de Colonisation' (1897); 'L'Indo-Chine française' (1899); 'La Morale des Religions' (1905); 'L'Etat et les Églises en France depuis les origines jusqua le séparation' (1906); 'La Lutte contre le Crime' (1910); 'Nos Forces Navales' (1911); 'Nos Forces Militaires' (1913).

LANETT, lą-nĕt', Ala., village in Chambers County, two miles southwest of West Point, Ga., on the Chattahoochee Railroad and on the Chattahoochee River. The population of the town is growing owing to the cotton mills, bleaching and dyeing works which levy for materials upon the cotton lands surrounding the town. The mills have abundant water power. Pop. 3,820.

LANFRANC, lăn'frănk (Fr. lăn-frăn), Anglo-Norman ecclesiastic, the first archbishop of Canterbury after the Norman Conquest: b. Pavia, Italy, about 1005; d. Canterbury, Kent, 24 May 1089. After studying law in his native city he left Italy about 1039 and founded a school of law at Avranches, which soon became famous in 1045, but entered the Benedictine monastery of Bec and in 1046 was chosen its prior. He opened a school in the monastery which presently became the most popular in Europe. He took a prominent part in the controversy with Berengar on transubstantiation. About 1053 he came into close relations with William of Normandy, and though he at first condemned William's marriage with his cousin, he afterward (1059) went to Rome to procure the papal dispensation for it. William accordingly made him prior of his new foundation, the abbey of Saint Stephen at Caen (1066), and in 1070 made him archbishop of Canterbury in place of Stigand. Lanfranc was William's most valued counsellor, acted as regent in the king's absence and continued in the reign of William Rufus to exercise a great and moderating influence on the government of England. He rebuilt Canterbury Cathedral in the Norman style after the fire of 1067. Consult his 'Life' by Crozals (Paris 1877); and Freeman's 'History of the Norman Conquest.' The first complete edition of his works was edited by D'Achéry (Paris 1648).

LANFRANCO, lăn-frän'kō, **Giovanni,** Italian historical painter: b. Parma, 1580 or 1581; d. Rome, 1647. He was a page in the service of the Marquis of Montalo, who placed him in the studio of Agostino Carracci at Parma. Later he studied in Rome under Annibale Carracci, assisting him in painting the frescoes in the Farnese Palace. His most notable work was done in fresco painting, although there is a considerable number of his oil paintings in the various Italian collections. He was also an engraver, his most famous work in that line being the plates for Raphael's biblical subjects in the Vatican. Among the most famous of his frescoes are his 'Angels in Glory,' painted for his old patron, the Marquis of Montalo, in the cupola of Maria in Piazzo at Piacenza; the completion of the cupola frescoes of San Andrea della Valle; the cupola of the church of Gesŭ Nuovo at Naples; and he painted other frescoes in various northern Italian cities. He painted 'Saint Peter walking upon the Sea' for Saint Peter's Church in Rome and likewise executed a Passion series for the chapel of the Crucifix there. His services to ecclesiastical art were recognized by Pope Urban VIII who knighted him.

LANFREY, Pierre, pē-ār lăn-frā, French historian and publicist: b. Chambéry, 26 Oct. 1828; d. Pau, France, 15 Nov. 1877. He was educated in the Jesuit college of his native town and in Paris and became well known by the publication of works in support of political and religious liberalism. These include 'L'Eglise et les philosophes au XVIII siècle' (1855); 'Essai sur la révolution française' (1858); 'Histoire politique des papes' (1860); 'Lettres d'Everard' (1860), a social novel in epistolary form; 'Le rétablissement de la Pologne'; and 'Etudes et portraits politiques' (1863). His most important work is a 'History of Napoleon I' (1867–75), which is strongly hostile to Napoleon. It was incomplete at his death. In 1871 he was elected to the National Assembly by the department of Bouches-du-Rhone, and took his seat with the Republican Left. He was Ambassador at Berne (1871–73), and in 1875 he was elected a life senator.

LANG, Andrew, English author: b. Selkirk, 31 March 1844; d. 20 July 1912. He was educated at Saint Andrews and at Balliol Col-

lege, Oxford; was elected Fellow of Merton, Oxford, in 1868. He was probably the most versatile writer of his time, and was recognized as an authority on many subjects, including Greek, French and English literature, anthropology and folklore, Scottish history (especially the Jacobite period), telepathy and physical research. His wide learning appears in his prose rendering of the 'Odyssey' (1879; with Butcher), and the 'Iliad' (1882; with Myers and Leaf), and 'Homer and the Epic' (1893), a defense of the unity of the poems; in his works on comparative mythology and religion, 'Custom and Myth' (1884), 'Myth, Ritual, and Religion' (1887; new ed., 1899); 'The Making of Religion' (1898), and 'Magic and Religion' (1901); and in his studies of Scottish history, such as 'A History of Scotland from the Roman Occupation'; 'The Mystery of Mary Stuart' and 'Prince Charles Edward.' Some of the most interesting of his work is to be found in 'Letters to Dead Authors' (1886); 'Letters on Literature' (1889); 'Angling Sketches' (1891); 'Essays in Little' (1891); 'Adventures Among Books' (1904). He published also volumes of verse, 'Ballades in Blue China' (1880); 'Rhymes à la Mode' (1884); 'Grass of Parnassus' (1888); 'Ballads of Books' (1888); 'Ban et Arrière Ban' (1894). Mention should also be made of 'Cock-Lane and Common Sense' (1894), a discussion of the spiritualistic question; 'John Knox and the Reformation' (1905); 'A Defence of Sir Walter Scott and the Border Minstrelsy' (1910); and the biographies of Lockhart (1896) and Tennyson (1901). See LETTERS TO DEAD AUTHORS.

LANG, Arnold, Swiss zoologist and anatomist: b. Oftringen, 1855. He was educated at the universities of Geneva and Jena, and in 1876 became privatdocent in zoology at Bern. He was assistant at the zoological station at Naples in 1878–85, and was Ritter professor of phylogeny at Jena in 1886–89. In 1889 he became profeesor of zoology and comparative anatomy at the University of Zürich, where in 1898–99 he was rector. He wrote 'Die Polycladen (Seeplanarien) des Golfes von Neapel' (1884); 'Ueber den Einfluss der festsitzenden Lebensweise auf die thiezre' (1888); and his 'Lehrbuch der vergleichenden Anatomie' was translated into the English 'Text-book of Comparative Anatomy' (Part I, 1891; part II, 1896).

LANG, Benjamin Johnson, American musician: b. Salem, Mass., 28 Dec. 1837; d. 1909. He studied music under his father, an organist and pianoforte teacher, and at 15 began work as teacher and organist. In 1855 he went to Germany for further study, which for three years he pursued under the instruction of Liszt, Albert Jaell and others. Returning to Boston he at once attained prominence as organist, pianist, teacher and conductor; became organist of the Handel and Haydn Society in 1859 and conductor of the same in 1895; conductor of the Apollo Club in 1868, and of the Cecilia Society in 1874. In 1869 he made a second visit to Europe, and gave concerts in Berlin and other cities. As a member of the concert committee of the Harvard Musical Association he did much in the interest of musical culture, and through this and other organizations secured the production of many new works. The introduction of Wagner to the American public was in no small part due to his presentation of that master. He also introduced in America Mendelssohn's 'Walpurgis Night' and Berlioz' 'Damnation of Faust.' While he accomplished much work as a composer, few of his compositions have been published.

LANG, Cosmo Gordon, English archbishop: b. 31 Oct. 1864; the son of the Rev. John Marshall Lang D.D., C.V.O. As an undergraduate he had a brilliant career at Glasgow University, at Balliol College, Oxford; and was a student of the Inner Temple, London, 1883–89. He became a Fellow of All Souls' College, Oxford, in 1888, and attained the degrees of D.D., D.C.L., LL.D., and D.Litt. He was curate at Leeds 1890–93; Fellow and Dean of Divinity, Magdalen College, Oxford, 1893–96; vicar of Saint Mary's,—the university church,—Oxford, 1894–96; vicar of Portsea, 1896–1901; bishop of Stepney, 1901–08; Canon of Saint Paul's, 1901–08; and honorary chaplain to the late Queen Victoria. He was created archbishop of York in 1908 and at the confirmation held in the Church House 20 Jan. 1909 objections were raised on behalf of the Protestant Truth Society on the ground that while bishop of Stepney he had allowed infractions of the law as to church ritual. The objections were dismissed by the commissioners in chambers presided over by the archbishop of Canterbury, on the technical grounds "that they could not be lawfully received." He visited the United States in 1918.

LANG, Heinrich, German-Swiss theologian and reform leader: b. Frommern, Wurtemburg, 14 Nov. 1826; d. Zürich, 13 Jan. 1876. He was educated in theology at the University of Tübingen and took part in the uprising of 1848, for which he was banished. He became pastor of Wartau, Switzerland, and won wide recognition for his advocacy of the Reformed Church. He later became pastor of the church at Meilen. He established a paper called *Die Zeitstimmen aus der reformirten Kirche der Schweitz* which he later combined with Bitzius' *Berner Wochemblätter* under the new name *Reform.* He opposed the old doctrines of the orthodox church, and was untiring in his efforts to promote broader views. He wrote 'Versuch einer christlichen Dogmatik' (1858; 2d ed., 1868); 'Ein gang durch die christliche welt' (1859; 2d ed., 1870), and 'Religiöse Reden' (2 vols., 1873–74; 2d ed., 1896).

LANG, John Marshall, Scottish Presbyterian clergyman and educationist: b. Glasford, Lanarkshire, 14 May 1834; d. Aberdeen, 2 May 1909. After completing his education at Glasgow University he filled successively several important charges, and was minister of the Barony parish in Glasgow from 1873–1900. He was moderator of the Church of Scotland in 1893. He was the author of several devotional and other religious works. His third son, Cosmo Gordon Lang (q.v.), was appointed archbishop of York (1909). In 1900 he was appointed vice-chancellor and principal of Aberdeen University.

LANG, Karl Heinrich Ritter VON, German historian: b. Balgheim, near Nördlingen, 7 July 1764; d. Ausbach, 26 March 1835. He was educated at the universities of Altdorf and Göttingen, specializing in history and jurispru-

dence. In 1789 he was private secretary to Baron von Bühler, Wurtemburg's envoy at Vienna; he traveled and studied extensively, and from 1793–1801 he was private secretary and archivist to the Prussian leader Hardenberg. In 1797 he was secretary of the legation at the Congress of Rastadt. He was ennobled in 1808 and in 1810–17 was archivist in Munich, retiring in 1817. His dependability as a historian is lessened by his tendency to satire and his giving rein to personal prejudices. Among his many works are 'Memorien' (Brunswick 1842; 2d ed., 1881); 'Beiträge zur Kenntnis der natürlichen und politischen Verfassung des oettingischen Vaterlandes' (1786); 'Neuere Geschichte des Fürstentums Bayreuth' (1798–1811); 'Bayerns Gauen' (1830).

LANGBAINE, läng'bān, **Gerard** (LANGBAINE THE YOUNGER), English dramatic biographer and critic: b. Oxford, 15 July 1656; d. there, 23 June 1692. He was the son of Gerard Langbaine, provost of Queen's College, Oxford, and was educated at University College, Oxford. For years he trifled with literary pursuits and in November 1687 a work appeared under Langbaine's name entitled 'Momus Triumphans, or the Plagiaries of the English Stage Exposed in a Catalogue of Comedies, Tragedies, etc.' A month later the work reappeared as 'A New Catalogue of English Plays,' the advertisement disclaiming responsibility for the title of the first edition and for an uncorrected preface. Langbaine attributed the unauthorized edition with its derisive title to the malice of Dryden. At this time Langbaine had collected 980 English dramatic works. He later wrote 'An Account of the English Dramatic Poets, etc.' (Oxford 1691), which is his best-known and most valuable compilation. He was elected yeoman bedel of arts at Oxford in 1690 and esquire bedel of law and architypographus in 1691.

LANGBEIN, läng'bīn, **August Friedrich Ernst**, German humorist: b. Radeburg near Dresden, 6 Sept. 1757; d. Berlin, 2 Jan. 1835. He was educated for the law at Leipzig and engaged in practice in Dresden until 1800 when he went to Berlin to enter upon a literary career. Both his verse and prose are of a rollicking humorous cast and were widely popular. He wrote 'Schwänke' (1792; 2d ed., 1888); 'Thomas Kellerwurm' (1806); 'Sämmtliche Schriften' (1835–37); 'Humoristische Gedichte,' edited by Tittmann (1872); 'Humoristische Erzahlungen' (1891). Many of his poems enjoyed a lasting popularity as songs.

LANGDALE, Marmaduke, BARON, English soldier: b. near Beverley, about 1598; d. Holme, 5 Aug. 1661. He came into public notice in 1639 when he opposed the ship-money levy on Yorkshire, but when the Civil War began he espoused the cause of King Charles I, and in 1643 he raised a regiment to fight for him. He afterward became a commander of cavalry, defeated the invading Scottish army at Corbridge, Northumberland, 19 Feb. 1644, and later fought at Marston Moor. He was victorious at Melton Mowbray 25 Feb. 1645; and succeeded in raising the siege of Pontefract on 1 March 1645, a piece of work regarded as perhaps the most brilliant of his career. He was defeated at Naseby, at Rowton Heath and at Sherburn; and the battle of Carlisle completely shattered the remnant of his 1,500 horsemen so that he was compelled to flee to the Isle of Man, whence he escaped to France in May 1646. In the second Civil War he returned to Scotland with a commission from Charles II, and on 28 April 1648 he surprised Berwick and quickly raised a body of Royalists. He was defeated by Cromwell's army at Preston, 17 Aug. 1648, and was taken prisoner 25 August. He was one of seven persons debarred from pardon by Parliament, but he succeeded in escaping from prison. He entered the Venetian service and was prominent in the defense of Candia against the Turks in 1652. After the Restoration Charles II created him a peer. His estates had been confiscated by Parliament, his losses in the service of the king amounting to £160,000, and he excused himself from the coronation ceremonies in 1661 on the ground of poverty.

LANGDELL, Christopher Columbus, American lawyer: b. New Boston, Hillsborough County, N. H., 22 May 1826; d. Cambridge, Mass., 6 July 1906. He studied at Harvard, was graduated from its law school in 1853, in 1853–70 practised in New York, in 1870 became professor of jurisprudence in the Harvard Law School, and in 1871 dean of the law school faculty. In 1895 he retired. He was an originator of the so-called "case" system of legal study, and was otherwise prominently identified with the progress of professional education in this country. His publications include 'Selection of Cases on the Law of Contracts' (1870; enlarged ed., 1877); 'Cases on Sales' (1872); 'Summary of Equity Pleading' (1877; 2d ed., 1883), and 'Cases in Equity Pleading' (1878); 'Brief Survey of Equity Jurisprudence' (1904).

LANGDON, John, American statesman: b. Portsmouth, N. H., 25 June 1739; d. there, 18 Sept. 1819. At the outbreak of the Revolutionary War he embarked in the patriotic cause, and in 1775 he was a delegate to the Continental Congress, but resigned office in June 1776, on becoming navy agent. In 1777, while speaker of the New Hampshire assembly, he pledged a large portion of his property for the purpose of equipping the brigade with which Stark defeated the Hessians at Bennington. He took part in the battle of Stillwater and commanded a company at Saratoga and in Rhode Island. Subsequently he was a member and speaker of the State legislature, a member of the Continental Congress, a delegate to the convention which framed the Constitution of the United States, and president of New Hampshire. He was one of the first United States senators from New Hampshire, which office he held until 1801, serving for a time as president of the Senate. In politics he acted with Jefferson, who upon assuming office in 1801 offered him the post of Secretary of the Navy, which he declined. From 1805 to 1812, with the exception of about two years, he was governor of New Hampshire; and in 1812 he was offered by the Republican congressional caucus the nomination for the office of Vice-President of the United States, which, on the score of age and infirmities, he declined. The remainder of his life was passed in retirement.

LANGDON, Samuel, Congregational clergyman and educator: b. Boston, Mass., 1723;

d. Hampton Falls, N. H., 1797. He was graduated from Harvard in 1740 and was pastor at Portsmouth, N. H., 1747–74. In 1774 he became president of Harvard, resigning in 1780. In the New Hampshire Convention he ardently advocated the ratification of the Federal Constitution. He received the degree of D.D. from Aberdeen in 1762. Langdon was the author of several works on religion and philosophy.

LANGE, läng'ĕ, **Ernst Philipp Karl** (PHILIPP GALEN), German novelist: b. Potsdam, 21 Dec. 1813; d. there, 20 Feb. 1899. He took his degree in medicine at Berlin, became a surgeon in the Prussian army in 1840, saw service in the Schleswig-Holstein campaign of 1849 and afterward settled at Bielefeld, where he practised medicine and began his literary career. He retired with the rank of surgeon-general in 1878. He wrote 'Der Inselkönig' (1852; 3d ed., 1858); 'Der Irre von Saint James' (1854; 9th ed., 1891); 'Walter Lund' (1855); 'Die Tochter des Diplomaten' (1865); 'Die Moselnixe' (1877); 'Der Meier von Monjardin' (1891), etc. His 'Gesammelte Schriften' was published in 36 volumes (1857–66).

LANGE, Friedrich Albert, German sociologist and economist: b. Wald near Solingen, 28 Sept. 1828; d. Marburg, 23 Nov. 1875. He was educated at Dinsberg, Zürich and Bonn, and became privatdocent in philosophy at Bonn in 1855. In 1858 he became schoolmaster at Duisberg, but resigned upon the government forbidding schoolmasters to partake in political activities, and entered journalism in the cause of political and social reform. He was a bitter opponent of Bismarck's ministry. In 1866 he removed to Winterthur near Zürich, where he was connected with the *Winterthurer Landbote*. He became privatdocent at Zürich in 1869 and professor of inductive philosophy in 1870. His strong sympathy with the French in the Franco-Prussian War influenced his resignation from Zürich but he afterward abandoned politics. In 1872 he became professor at Marburg. He wrote 'John Stuart Mills Ausichten über die sociale Frage' (1866); 'Geschichte des Materialisimus' (1867; 8th ed., 1908); 'Logische Studien' (1877; 2d ed., 1894), etc.

LANGE, Henry, German cartographer: b. Stettin, 13 April 1821; d. Berlin, 20 Aug. 1893. He was for three years engaged upon Johnson's Physical Atlas in Edinburgh and in 1855–60 he was head of the geographical department of Brockhaus in Leipzig. He was appointed inspector in the Berlin Statistical Bureau in 1868. Among his publications are 'Atlas vom Nordamerika' (1854); 'Brockhaus Reise-atlas' (1858–73); 'Südbrasilian, mit Rücksicht auf die deutsche Kolonization' (1885), etc.

LANGE, Johann Peter, German theologian: b. Sonneform near Elberfeld, 10 April 1802; d. Bonn, 9 July 1884. He studied at Bonn, held several pastorates and in 1854 became professor of theology at Bonn. He was one of the editors of the 'Theologische-homiletisches Bibelwerk,' which was translated, edited and enlarged under the direction of Dr. Philip Schaff as 'A Commentary on the Holy Scriptures, Critical, Doctrinal and Homiletical' (25 vols., New York 1865–80). He wrote 'Christliche Dogmatik' (3 vols., 1849–52; new ed., 1870); 'Grundriss der theologischen Encyclopädie' (1887); 'Grundriss der christlichen Ethik' (1878); 'Grundriss der Bibelkunde' (1881), etc.

LANGE, läng'ĕ, **Julius Henrik,** Danish art critic: b. Vordingborg, 19 June 1838; d. Copenhagen, 20 Aug. 1896. After leaving the University of Copenhagen he traveled in Italy, and thereafter devoted himself to study of the history of art, becoming in 1888 professor in that subject at Copenhagen University. Among his works are 'On Art Values' (1876); 'Danish and Foreign Art' (1879); 'Gods and Men in Homer' (1881); 'Art and Politics' (1885); 'Bastien Lepage and Other Painters' (1889); 'Thorwaldsen's Representation of the Human Figure' (1893). In his 'Billedkunstens Fremstilling at Menneskeskikkelsen' (3 vols., 1892–99) he elaborates his discovery of the "Law of Frontality." Consult Brandes, G., 'Julius H. Lange' (Copenhagen 1898).

LANGE, Thomas, Danish novelist: b. Copenhagen, 1829; d. Lyngby, 1887. He studied theology but abandoned it for a literary career. His work ranks nearly equal to that of his contemporary countryman, Goldschmidt. His first successful novel was 'Eventyrets Land' (1865). Later writings include 'Aaen og havet' (1870); 'Romantiske skildringer' (1872); 'De lyse Nœtter' (1875); 'Nyt Liv' (1879), etc.

LANGE, Thor Næve, Danish author and translator: b. Copenhagen, 1851; d. 1915. He studied at the University of Copenhagen and took his Ph.D. there in 1894. He became a professor at Moscow in 1877 and in 1887 he was Danish consul there. His work includes some excellent poetry and prose work besides translations of verse from the French, Italian, Greek, Russian and English. His 'Skildringer fra den russiske Literatur' (1886) ranks as a notable production. He wrote 'En Maaned i Orienten' (1887); 'Skizzer og Phantasier' (1890); 'Gennem farvet Glas' (1894); 'I danske Farver' (1907), etc.

LANGELIER, länzh'lyā', SIR **François Charles Stanislas,** Canadian jurist and statesman: b. Saint Rosalie, Quebec, 24 Dec. 1838; d. 8 Feb. 1915. He was educated at Saint Hyacinthe College, Laval University and the Law Faculty of Paris, and was professor of Roman law and afterward of civil law and economics at Laval University. He served in the Canadian House of Commons in 1884–98; was Minister of Crown Lands, Quebec, 1878–79; mayor of Quebec in 1882–90; and puisne justice of the Superior Court in 1898–1907. He was acting chief justice of the Superior Court of the province of Quebec division in 1906–11; and from 1911 he was lieutenant-governor of the province of Quebec. He was knighted in 1907. He published 'De La Preuve en Matiére Civile et Commerciale'; 'Commentaire du Code Civil de la Province Quebec.'

LANGEN, Joseph, German theologian: b. Cologne, 3 June 1837; d. Bonn, 13 July 1901. He studied at the University of Bonn and was ordained a priest in 1859. He became assistant professor in 1864 and in 1867 professor of the exegesis of the New Testament at Bonn, a

position he held for the remainder of his life. In 1870 he supported Döllinger in his controversy with the Vatican and was excommunicated. He left the Old Catholic Church in 1878 because of the permission to marry which was given priests, but he was never reunited with the Roman Catholic Church. His writings, which made him well known, include 'Introduction to the New Testament' (1868; 2d ed., 1873); 'An Examination of the Vatican Dogma in the Light of Patristic Exegesis of the New Testament'; 'History of the Church of Rome to the Pontificate of Innocent III' (4 vols., 1881–93), etc. He also contributed to the *International theologische Zeitschrift.*

LANGENBECK, läng'ĕn-bĕk, **Bernhard Rudolph Konrad** VON, German surgeon: b. Pardingbüttel, 8 Nov. 1810; d. Wiesbaden, 29 Sept. 1887. He took his degree at Göttingen in 1835. He traveled in France and England, returned to Göttingen as privatdocent and in 1842 became professor of surgery at Kiel. He succeeded Dieffenbach as director of the Clinical Institute for Surgery and Ophthalmology at Berlin, serving there in 1848–82, when he retired. He was a daring and skilful surgeon and made a reputation in facial surgery, as well as in resection, an operation on the bone which frequently obviates amputation of a limb; and in the treatment of gunshot wounds he was an authority. He was general field surgeon of the army in the war with Denmark in 1848, served in 1864–1866 and in the Franco-Prussian War of 1870–71. He was ennobled for his services in the Danish War. He published 'Chirurgische Beobachtungen aus dem Kriege' (1874).

LANGENBECK, Karl, American ceramic chemist: b. Cincinnati, Ohio, 7 Oct. 1861. He studied under Victor Meyer in Zürich and under Carl Liebermann in Berlin. He was superintendent of the Rockwood Pottery in Cincinnati in 1885–90, and is the originator of the Rockwood faïence and adventurine pottery glazes. In 1888–90 he was professor of chemistry at Miami Medical College. He is well known as a consulting chemist and since 1908 has been associate editor of the *Journal of Industrial and Engineering Chemistry.* He wrote 'Chemistry of Pottery' (1895).

LANGENBECK, Konrad Johann Martin, German surgeon: b. Horneburg, 5 Dec. 1776; d. 24 Jan. 1851. He studied at Jena, Vienna and Würzburg and took his degree at Göttingen in 1802. He was appointed professor at Göttingen in 1804. He was eminently successful both as a surgeon and as a teacher. He founded and edited the *Bibliothek für Chirurgie und Ophthalmologie* (1806–28). He was the father of MAXIMILIAN ADOLPH LANGENBECK (1818–77), also famous as a surgeon and uncle of BERNHARD RUDOLPH KONRAD VON LANGENBECK (q.v.).

LANGENDIJK, läng'ĕn-dīk, **Pieter,** Dutch poet and dramatist: b. Haarlem, 1683; d. 1756. He was by trade a designer of textile patterns, but turned to literature, in which he achieved considerable success. His work includes a number of dramas, chiefly comedies, some of which are still produced, and he was the author of numerous poems. His works include 'Don Quichot' (1696); 'De Zwetser' (1712); 'Het wederzyds huwelyksbedrog' (1714); 'Kreis-Louwen' (1715); 'Quincapoix of de windhaudelaars' (1720); 'Xantippe of Het boose wyf des filosoofs Socrates betengeld' (1756), etc. His poems were published in his collected works, 'Gedichten' (1760). Consult Van Hampen, 'Histoire des lettres Neerlandaises' (1821–26); Meijer, 'Pieter Langendijk' (1891).

LANGENSALZA, läng'ĕn-zäl'tsą, Prussia, city in the province of Saxony, on the Salza, 19 miles northwest of Erfurt. It became a town in 1211, was subsequently part of the electorate of Saxony, and in 1815 came into Prussian possession. Near it are the remains of the Benedictine monastery of Hohenburg, where Henry IV was victorious over the Saxons in 1075. It was the field of three other famous battles; the defeat of the imperial army by the Prussians and English, 15 Feb. 1761; the victory of the Prussians over the Bavarians 17 April 1813, and the defeat of the Prussians by the Hanoverians 27 June 1866, the results of this battle being reversed by the arrival of Prussian reinforcements 29 June. The modern town is chiefly engaged in the textile industries. There are sulphur springs in the vicinity. Pop. 12,663.

LANGENSCHEIDT, läng'ĕn-schīt, **Gustav,** German philologist and publisher: b. Berlin, 21 Oct. 1832; d. there, 11 Nov. 1895. He was an extensive traveler and the originator with Charles Toussaint of the Toussaint-Langenscheidt method of self-instruction in languages. The first textbook of the series, Französische Unterrichtsbriefe zum Selbststudium' (1856) reached its 62d edition in 1902. He was assisted by Karl von Dalen and Henry Lloyd in the preparation of 'Englisch Unterrichtsbriefe.' He published also the Sachs-Villatte Französischdeutsches Wörterbuch' (1868–94); the Muret-Sanders 'Encyclopädie Wörterbuch der Englisch und deutsche Sprache' (1891–1901), etc. The system was founded on the Hamilton-Jacotot method and has been widely adopted for use in different languages.

LANGEVIN, läñzh-văñ, SIR **Hector Louis,** Canadian statesman: b. Quebec, 26 Aug. 1826; d. 1906. He was called to the bar in 1850. He entered Parliament during the Union period, and on Confederation was appointed Secretary of State; was subsequently Minister of Public Works (1869–73); Postmaster-General (1878); and again Minister of Public Works (1879–91). He retired from public life in 1891.

LANGEVIN, Jean François Pierre La Force, zhŏñ frăñ-swä pē-ār lä fôrs, French-Canadian Roman Catholic bishop: b. Quebec, 22 Sept. 1821; d. 26 Jan. 1892. He was educated at the Quebec Seminary, was ordained priest in 1844 and consecrated bishop of Rimouski in 1867. In 1870 he founded the College of Rimouski. Among his publications were 'Histoire du Canada en Tableaux' (1860); 'Cours de Pédagogie' (1865).

LANGEVIN, Louis Philip Adelard, Canadian Roman Catholic prelate: b. Saint Isidore, La Prairie County, Quebec province, 23 Aug. 1855; d. Montreal, 15 June 1915. He was educated in theology at the Sulpician College, Grand Seminary, and Saint Mary's College,

Montreal; was ordained in 1882; was appointed professor of theology in the University of Ottawa 1885; and in 1893 became rector of Saint Mary's Church, Winnipeg. He was consecrated archbishop of Saint Boniface, 19 March 1895. He played a conspicuous part in the separate schools controversy in Manitoba.

LANGHAM, Simon de, English archbishop and cardinal: b. Langham, about 1310; d. Avignon, 22 July 1376. He became a monk, then prior and later abbot in the abbey of Saint Peter at Westminster. He was appointed treasurer of England in 1360 and in 1361 became bishop of Ely. He was chancellor of England in 1363, and in 1366 was elected archbishop of Canterbury. He expelled the secular clergy, headed by John de Wiclif, from their college at Canterbury Hall, Oxford, and as chancellor of England took part in the anti-papal measures of 1365–66. He was nevertheless made a cardinal by Urban V in 1368, but his acceptance cost him the favor of Edward III and he was compelled to resign his archbishopric. He retired to Avignon, soon held other offices of the Church and in 1374 was again offered the archbishopric of Canterbury, but declined it. He left his estate to Westminster Abbey, where his tomb is the oldest monument to an ecclesiastic.

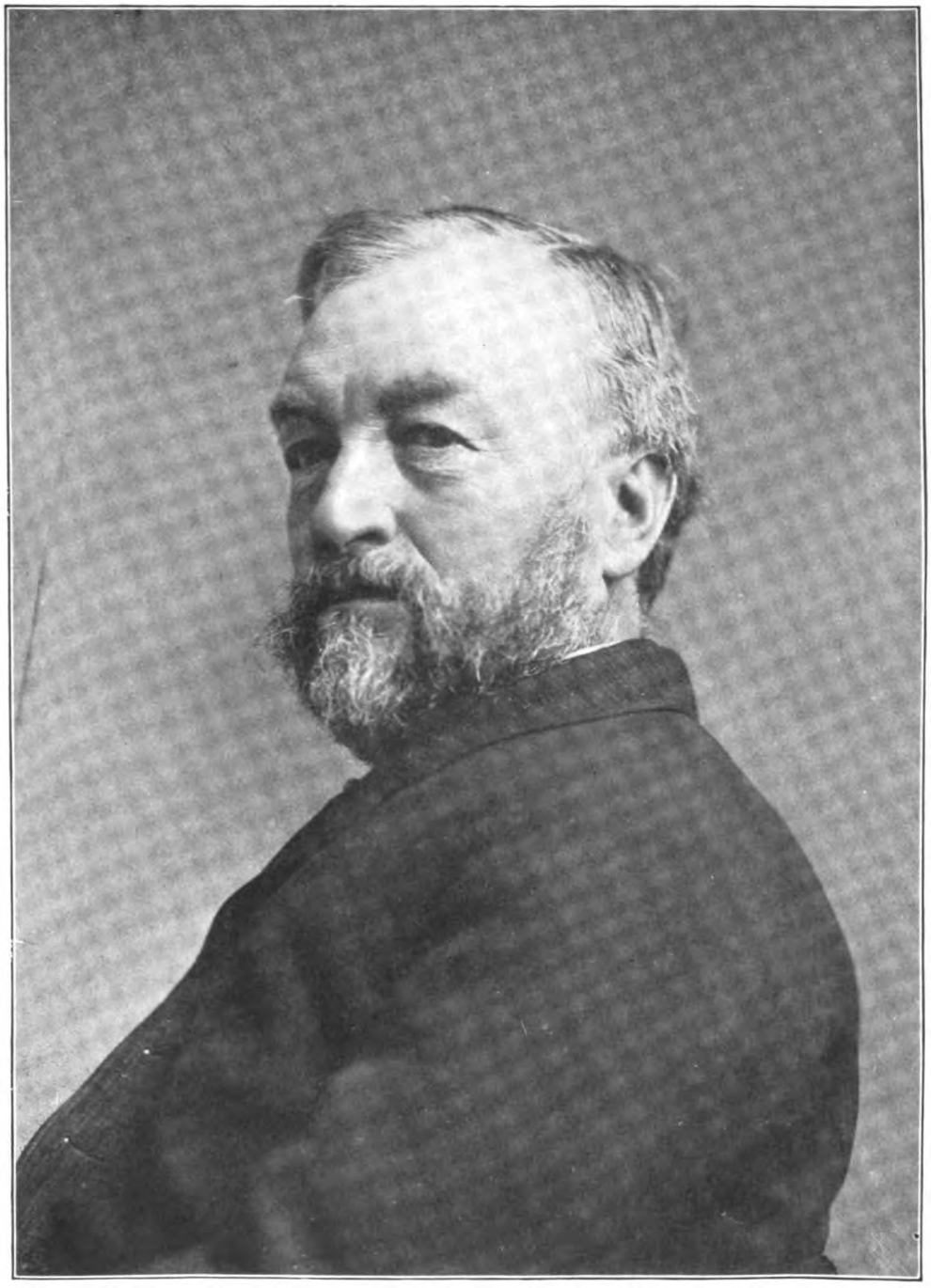
LANGHORNE, John, English poet and translator of Plutarch: b. Kirkby Stephen, Westmoreland, March 1735; d. Blagdon, 1 April 1779. He entered Clare Hall, Cambridge, in 1760, and having taken orders became a curate at Dagenham in Essex in 1761, and rector of Blagdon, Somerset, in 1766. In 1777 he was installed a prebendary of Wells Cathedral. He wrote verses and stories once popular, but he is remembered now only by the translation of Plutarch's Lives which he made with his brother William (1721–72). This work, originally published in six volumes in 1770, has passed through many editions.

LANGLADE, lăn'glăd', Charles Michel de, French-Canadian soldier and pioneer, known as "the founder and father of Wisconsin:" b. Mackinaw, Mich., May 1729; d. Green Bay, Wis., January 1800. His mother was the daughter of an Ottawas chief, and as head of the Ottawas he carried out the ambuscade which resulted in the defeat of General Braddock in 1755. He was in the service of the French at Fort Duquesne; and in 1757 he joined Moncalm with a band of Ottawas, rendering services at Fort George for which he was made second in command at the military post at Mackinaw. He was with Montcalm at the siege of Quebec, was in the battle of the Plains of Abraham, and in 1760 fought under Chevalier de Levis. At the outbreak of the American Revolution he joined the British at the head of a large body of Indians. When the Indians deserted General Burgoyne after the severe reprimand which followed the murder of Jane McCrea, Langlade was forced to accompany them; but while Burgoyne bitterly blamed him the British government did not confirm the charges. He was appointed Indian agent in 1780 and later became Indian superintendent and commander-in-chief of the Canadian militia. He held these offices until his death, and received a life annuity of $800 from the British government. He was a man of unquestioned integrity, and inspired sentiments of warm regard of which traditions still linger in Wisconsin.

LANGLANDE, lăng'lănd, LANGELANDE, or LONGLAND, William, English poet: b. Cleobury Mortimer, about 1332; d. about 1400. Little is known of him except from tradition, according to which he was educated at Oxford, and became a monk of Malvern. The familiarity of the author with the Scriptures and the Church fathers indicates that he was an ecclesiastic; several local allusions in the poem, and the fact that its scene is the "Malverne Hilles," prove that it was composed on the borders of Wales; and internal evidence fixes its date at about 1362. It narrates the dreams of Piers Ploughman, who, weary of the world, falls asleep beside a stream in a vale among the Malvern hills; and while satirizing in vigorous allegorical descriptions the corruptions in church and state, and the vices incident to the various professions of life, and painting the obstacles which resist the amelioration of mankind, presents the simple plowman as the embodiment of virtue and truth, and the representative of the Saviour. Its ancient popularity appears from the large number of MS. copies still extant, most of them belonging to the latter part of the 14th century. It was a favorite of religious and political reformers, and several imitations of it appeared, the most important of which was 'Piers Ploughman's Crede,' written about 1393 by some Wycliffite, assailing the clergy, and especially the monks. In 1550 the 'Vision of Piers Ploughman' was printed by the reformers, and so favorably received that three editions were sold within a year. This poem is a remarkable example of a system of verse, derived from the Anglo-Saxons, and marked by a regular alliteration instead of rhyme. There are two classes of manuscripts, which give the text with considerable variations. The best edition both of the 'Vision' and the 'Crede' is that of Wright (1856; new ed., 1897); and of the 'Vision,' that of Skeat (1886). Consult Jusserand, 'Piers Plowman: a Contribution to the History of English Mysticism' (1893); Stubbs, C. W., 'The Christ of English Poetry' (New York 1906).

LANGLÈS, Louis Mathieu, French Orientalist: b. Perrenes, 23 Aug. 1763; d. 28 Jan. 1824. He was educated at Paris, specializing in Oriental languages. He translated the 'Instituts politiques et litteraires de Tamerlan' from the Persian in 1787; and edited the 'Alphabet tartare-mandchou' of Father Amyot in 1789–90. He was instrumental in the establishment of the School of Oriental Languages in Paris in 1795; and was its first administrator, as well as professor of Persian. He was author of many studies of Oriental literature, and the founder of the Paris Geographical Society.

LANGLEY, John Newport, English physiologist: b. Newbury, 1852. He was educated at Saint John's College, Cambridge. He received a fellowship at Trinity College, Cambridge, where he was lecturer in 1884–1903, also serving as university lecturer; and later became professor of physiology at Cambridge. He is a member and officer of many English, American and Continental scientific societies;



SAMUEL PIERPONT LANGLEY

was Royal Medalist of the Royal Society in 1892, and was awarded the Baly medal of the Royal College of Physicians in 1903. He has contributed extensively to scientific journals, and is the editor of the *Journal of Physiology*.

LANGLEY, Samuel Pierpont, American astronomer, physicist and pioneer designer of airplanes: b. Roxbury, Boston, 22 Aug. 1834; d. Aiken, S. C., 27 Feb. 1906. He was graduated from a high school, studied architecture and civil engineering and after a two years' trip abroad became an assistant in the Harvard Observatory in 1865, and later assistant professor of mathematics in the United States Naval Academy, and in 1867 was appointed director of Allegheny Observatory. In 1887 he became secretary of the Smithsonian Institution. He organized in 1881 an expedition to Mount Whitney, Cal., where he was successful in re-establishing the color constant and in extending the invisible solar spectrum. He also devised the bolometer, or thermic balance, a contrivance for detecting minute differences of radiant heat and measuring accurately to less than one ten thousandth of a degree Fahrenheit. He established the Astrophysical Observatory and the National Zoological Park at Washington and in 1887 was president of the American Association for the Advancement of Science. His name became generally known through his experiments in connection with the problem of mechanical flight. In 1896 a motor-driven airplane designed by him accomplished the first sustained flight. Further experiments were not so successful, but his design of apparatus has been shown to be correct; in fact, in 1914, Glen Curtiss installed a more powerful engine in Langley's machine of 1903 and made a successful flight with it at Hammondsport, N. Y. Congress voted Langley $5,000 to carry out his ideas. Criticism and lack of support, led him to abandon his experiments, which, if persevered in, would have been successfully eventually, as aeronautical engineers now recognize the correctness of Langley's reasoning and the value of his contributions in this field of science. Among his writings are 'The New Astronomy'; 'Experiments in Aëro-Dynamics,' and 'Internal Work of the Wind.'

LANGLEY, Walter, English painter: b. Birmingham, 1852. After attending the National School, Birmingham, he qualified as a lithographer, meanwhile studying in the local school of art. He there gained the National scholarship and studied at South Kensington two years; settled in Newlyn, Cornwall, 1882. Among his watercolor paintings are 'Among the Missing'; 'Departure of the Fleet'; 'Disaster'; 'After the Storm.' His oil paintings include 'Never Morning Wore to Evening but Some Heart Did Break'; 'Motherless'; 'Bread-winners,' etc.

LANGLOIS, lăn'glwā', **Hippolyte,** French soldier and military writer: b. Besauçon, 1839; d. 12 Feb. 1912. He was educated at the École Polytechnique at Paris and entered the artillery as sub-lieutenant in 1858, rising to the rank of captain in 1866. He was with the army of Metz in the Franco-Prussian War. He became professor of artillery at the École de Guerre in 1887 and in 1898–1900 he was commandant of that institution. He received rank as general of division in 1898 and in 1901 was designated commander of the 20th Army corps at Nancy. In 1902 he was a member of the superior council of war, and upon reaching the age limit in 1904 he was retired. He served in the French Senate in 1906, was elected to the French Academy in 1907, and was a grand officer of the Legion of Honor. He was deeply interested in the improvement of the artillery and was influential in the production of the famous 75 mm. quick-firing gun. He founded in 1907 the *Revue Militaire Generale*, a publication dealing with military art and history. He wrote 'L'Artillerie de campagne en liason avec les autres armes' (1891–92); 'Manœuvre d'un detachement de toutes armes avec fuex réels' (1887); 'Guerre turco-russe et anglo-boer' (1903), etc. His military writings gained worldwide recognition.

LANGOBARDI, lăn-gō-bär'dī. See LOMBARDS.

LANGREO, lăn'gr', Spain, city in the province of Oviedo on the river Nalon, 18 miles from the coast and 10 miles southeast of Oviedo on a branch railway from Oviedo to Labiana. Its chief industries are the mining of coal and iron ore and the manufacture of iron products. The surrounding country produces fruit, wheat and hemp. Pop. 25,444.

LANGRES, France, capital of an arrondissement in the department of Haute-Marne, 21 miles southeast of Chaumont on the eastern railway to Belfort. It is situated on the "Plateau of Langres" which is famous in military history as a commanding strategic point. The town in ancient times was known as Andematunum, capital of ancient Lingones; under Roman rule it was practically autonomous until the revolt of Sabinus reduced it in rank to a colony in 71 A.D. The cathedral of Saint Mammes was built in the 12th century, and the church of Saint Martin in the 13th, 15th and 18th centuries. There is a Gallo-Roman gate, a museum of Gallo-Roman antiquities, a picture gallery and library. The town is the seat of a bishop, has a higher ecclesiastical seminary and communal colleges for both sexes. The industries of the town include a famous line of cutlery and textile manufactures, together with a trade in grain and oil. Pop. 6,335.

LANGSHAN, a breed of small, active "Asiatic" fowls, long held in esteem by poultry-raisers; cocks weigh 10 pounds. Two varieties are approved — the pure white and the glossy black. See POULTRY.

LANGSIDE, Scotland, a village forming a suburb two miles south of Glasgow. It is famous as the scene of the battle in which the Regent Murray on 13 May 1568 defeated the forces of Mary, Queen of Scots and forced her flight to England where she was made prisoner and held until her execution. The battle lasted only three-quarters of an hour.

LANGSON, French Indo-China, capital of the province of Langson in Tongking, 82 miles northeast of Hanoi, on the railway between there and Lungchow in the Chinese province Kwangtung. The town has a citadel and was the scene of two battles in which the French were first defeated by and in turn defeated the Chinese in 1885, since when it has belonged to the French.

LANGSTON, John Mercer, American educator: b. in Louisa County, Va., 14 Dec. 1829; d. Washington, D. C., 15 Nov. 1897. He was born a slave, but when six years old was emancipated, and in 1849 was graduated at Oberlin College, where he was also (1853) a graduate in theology. Admitted to the bar in Ohio (1854), he practised law in that State for 13 years, and in 1869 was appointed professor of law at Howard University, Washington, D. C.; became dean of the law department, and in 1873 vice-president of the university. In 1871 he was appointed a member of the board of health of the District of Columbia, and was afterward elected secretary of the District. From 1877 to 1885 he was United States Minister and consul-general in Haiti, and when he returned to this country he was made president of the Virginia Normal and Collegiate Institute at Petersburg. He was elected to Congress in 1888. He published 'Freedom and Citizenship,' a collection of addresses (1883).

LANGTON, Stephen, English cardinal: b. about 1150; d. Slindon, Sussex, 9 July 1228. He was educated at Paris, and while on a visit to Rome in 1206 Innocent III created him a cardinal and nominated him to the see of Canterbury, consecrating him archbishop next year. King John refused to allow Langton to take possession of his see, and it was not till England had been placed under an interdict, John excommunicated and threatened with deposition, that the king yielded. Langton was acknowledged in 1213, and in August joined the insurgent barons, and acted with them in compelling John to sign Magna Charta. He crowned Henry III, and in 1223 demanded of him the full execution of the charter. He was the author of some theological treatises, and the division of the Bible into chapters has usually been attributed to him. Consult Hook, 'Archbishops of Canterbury' (1862).

LANGTRY, Lily, English actress: b. island of Jersey, 1852. She was the daughter of the Rev. W. C. Le Breton, dean of Jersey, and as the "Jersey Lily" (a name given by Millais to the portrait of her which he had painted) was famous for her singular beauty and social graces. She was married to Edward Langtry in 1874. In 1881 she made her first appearance on the stage at the Haymarket Theatre in 'She Stoops to Conquer.' She has paid several professional visits to the United States, and in 1903 she starred in 'The Crossways,' a play written by herself in collaboration with J. Hartley Manners. In 1899 she was married to Sir Hugo de Bathe, Bart.

LANGUAGE. See ETYMOLOGY; LANGUAGE, SCIENCE OF; SPEECH; WRITING.

LANGUAGE, Science of. Language in its broadest sense is any means of expressing thought. The cries of the lower animals are language in so far as they give expression to their state of mind, there is a language of flowers and so on. The present article deals with only one form of language, i.e., human speech. The Science of Language in this narrower sense (also called *Linguistics*) comprises three branches: (1) General Linguistics; (2) Comparative Philology; (3) Special Grammar. The object of the *General Linguistic* is to ascertain the fundamental laws and characteristics of the language processes by the examination and comparison of all the languages available for this purpose. This branch interprets the phenomena observed in the light of the known laws of psychology, physiology and physics. It lays the foundations for all the branches of language study. *Comparative Philology* has a narrower field, being limited to the comparison of languages of kindred origin. Its purpose is to determine the genetic relationships between such languages. Examples are Indo-European Comparative Philology, Comparative Philology of the Bantu languages, of the Semitic languages, etc. *Special Grammar* is of two types, historical and systematic. The latter offers a systematic classification and description of the forms and usages of any given language or dialect at some definite period of its life, e.g., the grammar of Modern English, of Chaucer's English, of Hellenistic Greek. Historical grammar aims to explain the development of a given language from generation to generation.

A. GENERAL LINGUISTICS.

Description of the Language Processes.— It is customary to define language as articulate sounds expressive of ideas. While such a definition may satisfy the popular curiosity, it is extremely inadequate. As a matter of fact, language is a complex series or group of nervous, muscular and physical processes. It is a well-known fact that the nervous system is made up of a great many groups of nerve cells. Each group performs some special function. For example, one part of the brain receives the impressions from the eye, another from the ear and so on. In particular from one area on each side of the brain run fibres which reach either directly or indirectly (by relays) all the muscles of the body. When we wish to give utterance to an idea, we set up (in some way not fully understood) a nervous activity in that portion of this "motor area" which controls the muscles that must be moved in order to produce the required sounds. Physiologists assume that this activity consists of chemical activity in the nerve cells. Reaching the muscle this nervous activity sets up what we will designate as (1) the first stage of the speech process, i.e., a chemical activity in the muscle cells and the consequent movement (shortening and thickening) of the muscle. The moving muscle drags with it the bones and other tissues attached to it. Practically all the muscles of the body from the hips upward to the level of the ears are employed in speech. Those of the abdomen and chest control the stream of breath; those of the larynx control the production of musical tones; those of the head and neck control the movements of the jaws, tongue, lips, etc., necessary to the modification of musical tones and the production of consonantal noises.

These movements initiate (2) the second stage, i.e., they set the air particles of the breath into rapid oscillation. These air vibrations, the *physical* stage of the speech process, are propagated in accordance with the laws of physics in all directions and thus impinge upon the ear drums of the listener. Propagated thence to the inner ear they there act upon appropriate sense organs and through them stimulate the tips of the auditory nerves. The nervous process thus

set up is propagated along the nerve, like fire along a fuse, till it reaches the brain, where it initiates (3) the third stage, i.e., sensations of sound, which awaken in the mind of the listener ideas and emotions similar to but never identical with the ideas and emotions which started this train of processes in the mind of the speaker.

This series of psycho-physical processes may be figuratively called the main trunk line of speech, but the following accessory processes are equally essential. The muscular movements not only produce air vibrations, but also stimulate by pressure of friction sensory nerves located in or upon the muscle fibres, in the synovial membranes of the joints and in the surfaces of the tongue, palate, gums, lips, etc. This stimulation results in (4) kinesthetic sensations (of strain, deep pressure and touch) which report to us the location, nature and extent of the movements executed. Aided by the auditory sensations they provide a means by which we control our movements; through them we learned to repeat desired movements in infancy; through them we become aware of errors of movement (mispronunciations) in later years; without them tradition in language would be impossible.

Not less vital are (5) the many associational processes. The parts of the brain active during thinking are connected (directly or through subcentres) with the motor areas, and it is a law of mental life that all thought tends to pass over at once into action. There is likewise association between the sounds of the words and their meaning, between the sounds and the kinesthetic sensations, between the kinesthetic sensations and the ideas, between the visual sensations (that is, the appearance of the written or printed words) and the meaning, etc. The effect of these associations is to bind the whole into a co-ordinated and harmonious system, in which each process takes place with a degree of accuracy and order of sequence adequate to the accomplishment of the purposes for which speech is employed.

All the above processes both in man and animals have been developing since primæval times by a natural process of evolution in accordance with the laws of physical and mental growth. On the other hand alphabetic signs or letters are arbitrarily designed or selected by individuals to represent certain sounds. They yield (6) visual sensations. Although originating as symbols of sounds, the letters when grouped into words quickly become associated with the meanings and are primarily symbolic of them.

Thus we see that speech is a combination of three different kinds of symbols: (a) the primary symbols, muscular movements, (b) the secondary symbols, speech sounds, and (c) the tertiary symbols, written or printed words. The average man thinks usually of the last two forms, but he who would understand the nature of language and fathom the laws of its development should rather direct his attention chiefly to the muscular movements and regard language study as applied Psychology of Movement.

The above described processes beginning with thought in the mind of the speaker and ending with the awakening of thought in the mind of the listener do not, however, complete the cycle of speech. It must not be forgotten that speech is a *social* activity. Man cannot live without the co-operation of his fellow-men. The chief purpose of speech is to secure this co-operation and thus achieve some form of self-realization, of accomplishing our desires. The communicative process is completed only when the speaker gets a response by word, look, gesture or even silence (for silence is sometimes eloquent), which will enable him to judge the attitude of the listener and hence the degree of his own success or failure.

The problems of General Linguistics fall into two classes: first, those which have to do with the processes of expression and, second, the problems of understanding. Under the first fall the following: the relation of thought to language, the relation of physical to spiritual matters, the origin of language, the degree of accuracy and completeness with which language expresses thought, the extent to which the forms of thought are controlled by language and vice-versa, the effect of environment on speech, the problems of anatomy and physiology of nerve and muscle and of the localization of brain functions, the problems of muscular control. The problems of interpretation include those of understanding and those of sensation. Here fall the questions as to the degree of accuracy with which sensations correspond to stimuli, or, conversely put, how far the state of mind determines the character of the sensation (mishearings, misreadings and misunderstandings), how sensations awaken thought. All these problems may be grouped under two heads: Phonetics and Semantics.

Phonetics.— Phonetics is the general science of speech sounds; *phonology* is the study of the system of sounds of any given language, as, e.g., English phonology. The organs of speech in the narrower sense are the mouth and nose cavities and especially the tongue and larynx; also the trachea and lungs with their controlling muscles. In a broader sense they include those muscles of the abdomen which aid in the control of breathing. The lungs force through the trachea a stream of air, the rate of flow and compression of which are varied from moment to moment to meet the needs of speech. The larynx, which rests on the top ring of the wind pipe, is a small box having a cartilaginous framework overlaid with muscles, connective tissue and mucous membrane. Its most essential parts are the so-called "vocal cords." These are not, strictly speaking, cords at all, but are overhanging, ledge-like projections, one arising from each side of the inner wall of the larynx. The core of each is formed by a small muscle, the front ends are immovably attached to the inner front angle of the thyroid cartilage (Adam's apple) in contact with each other. Each muscle is attached at its posterior end to one of the arytenoid cartilages, which can be moved by means of appropriate muscles upward, downward, forward or sidewise. Thus by the approximation of the arytenoid cartilages the "cords" can be brought into contact along their entire length, completely closing the glottis, as the opening between them is called; or the rear ends of the cords may be separated, yielding a V-shaped glottis. When brought into contact, or nearly so, and tensed by proper muscular action, they are made to vibrate by the current of air forced through the trachea. The vibrations can be easily felt if the finger be placed upon the Adam's apple during speech.

The sound produced is musical tone, consisting physically of a series of like vibrations, and technically called *voice*. The rate per second of the vibration determines the key or musical note on which a sound is pronounced or sung. The shorter the cords and the higher the tension the higher the rate and the higher the note. The loudness is determined by the amplitude of the vibrations of the cords. The air waves produced by the cords are very feeble; but they are reinforced by the resonating effect of the mouth and nose cavity. It is estimated that the voice as heard is some 300 times as loud as it would be if not thus reinforced. The cords, like a violin string, vibrate not only as a whole but also in segments, the segmental vibrations yielding overtones. For example, if the cord as a whole vibrates 100 times per second, the half cord will vibrate 200 times, the third 300 times, the fourth 400 times, the eighth 800 times, the twelfth 1,200 times and so on. The commingling of these overtones of varying loudness is what gives the main characteristic distinction to the voices of different persons.

The *vowels* are "voice" with little or no audible commingling of other sounds. After much study it now seems to be established, that the difference between the various vowels is caused by the presence of certain characteristic tones. Some of these have been recently calculated as follows:

oo in *moon*	ca.	225 vibrations per second
o in *mow, roam*	"	460 " "
aw in *maw*	"	732 " "
a in *ma*	"	1050 " "

The following vowels have two characteristics:

ee in *meet*	ca.	310	and	ca.	3100
a in *mate*	"	490	"	"	2460
e in *met*	"	690	"	"	1950
a in *mat*	"	800	"	"	1840

A in *ma* has also been found with two characteristics, 950 and 1,240. According to the above definition we must regard the *liquids* and *nasals l, m, n* and *r* as vowels (even though they lack the clear, open quality of *a, e, i, o, u*), particularly in such words as *apple, serum, oven* (often pronounced *ov'm*) and *over*, in which the *e* and *u* are usually silent, the *l, m, n* and *r* being the loudest sounds in their syllables.

In addition to musical tones the speech organs produce sounds which consist either of irregular vibrations or of regular vibrations, that do not produce on the ear the effect of musical tones. Such sounds are called noises. There are two classes of these *noises:* (1) Explosive noises, (2) frictional noises.

The former are made by the complete stoppage of the air (effected by a closure at some point in the throat, mouth or larynx), and the subsequent compression of the air behind the closure, followed by the sudden opening of the closure by muscular action and the air pressure. The resulting *consonantal* sound is called a "stop" or "explosive." The closure yielding *p* is made by bringing the lips into contact, *t* by pressing the tongue against the teeth (French and German dental *t*) or the gums (alveolar *t*, as commonly made in England and America, though dental and alveolo-dental *t* is often found among us) or against the top of the mouth (cerebral or prepalatal *t*, as found in Sanscrit), *k* by pressing the rear part of the tongue against the back part of the hard palate (palatal *k*, as in *kick*) or against the velum (velar *k*, as in *koal* or *coal*) or against the back part of the throat below the velum (gutteral *k*, as in Arabic). In all of these sounds except Arabic *k* and the two now to be mentioned, the velum is also drawn upward, closing the nose passage. A *k* may also be made by pressing the epiglottis against the back of the throat and a *glottal stop* is produced by an explosion at the vocal cords (Greek "*rough breathing*"). A *velar-nasal* stop is made by closing the lips and velum and snapping open the latter. *b, d, g* are the same explosive noises accompanied by voice. *Trilled r* is produced by a succession of such stops made by the rapid vibration of the tongue or the uvula against the adjacent parts of the mouth. *Frictional* noises (*spirant* consonants or *fricatives*) are produced when the air passage is reduced by near closure to a very small channel and the air forced swiftly through it. Thus are produced voiceless *s* in *see, sh* in *shall* and *th* in *think*. To these correspond voiced *z* in *zest, z* in *azure* and *th* in *these*. All these are *hisses*. If the channel is larger and the breath driven more gently, the noise is a murmur as in *l* and American northern *r* (voiced or voiceless). Glottal spirants are English *h* (sometimes voiced) and the "whisper."

If immediately following an explosion the passage remains narrow for an instant the explosion is followed by a hiss. These sounds are called *affricates: ch* in *change, j* in *jump*. *Y* as in *yet* is a swiftly pronounced "long" *e; w* in *we* is an evanescent *oo* as in *boot*.

In the production of most of the above sounds the velum may remain open, i.e., drawn forward and downward, adding the resonance cavity of the nose to that of the mouth. This greatly increases the quality (by reinforcing the higher overtones) and volume of the sound. Hence singers are especially trained to use nose resonance to the greatest possible extent. If the velum is closed, fully half the resonance effect is lost. By using more breath and overstraining the muscles of the larynx one can partly make up the loudness, but the quality is irretrievably lost. A full, clear resonance can be secured only when the mouth opening is fairly wide. If it is completely stopped (as in pronouncing *n*), or made very small, we get a muffled *nasal twang* characteristic of certain French vowels and of "Yankee" pronunciation.

The lips may be more or less puckered or "roumded" in the pronunciation of all the vowels and most of the consonants. This gives a peculiar resonance effect. English *o* in *note* and *u* in *tune* are rounded. German *ü* and French *u* are rounded long *e* (as in *meet* or *mere*).

Accent is of two kinds. *Stress* accent is a variation in the energy of utterance (amplitude of vibration) of successive (a) words, (b) syllables, (c) sounds or (d) parts of the same sound; (a) constitutes sentence accent, (b) is word accent, (c) and (d) syllable accent. *Pitch* accent is a variation of musical tone (rate of vibration) similarly affecting sounds, syllables and words. In most, if not all, languages both types occur. In English stress predominates.

Comparatively few speech movements and sounds are here described. Those actually produced are innumerable; they run into the millions or even billions. Each nation has a group of some three score "main" sounds and countless minor variations. Each individual has his own way of speaking; we easily recognize his voice; but even he varies his pronunciation from day to day, nay, even from minute to minute. Here, as everywhere else in animal and even vegetable life, nothing is fixed. As the old Greek philosopher said, *panta rhei*, "everything is in a flux." Movement and change are life; rigidity is death.

Sound Changes.— As already stated, Phonetics is applied psychology of movement. The muscles used in speech, though highly trained, act as other muscles act. You cannot close the eyes and draw with a sharp pointed pencil 10 lines exactly one inch long. A ball player cannot throw the ball twice through exactly the same point over the plate. If he does it is an accident. The best marksman rarely hits the exact centre of the bull's eye. So in speech no one can repeat at will exactly the same movement, much less a group of movements necessary to the production of a given sound. There will always be variations in range, direction, duration and co-ordination. The variations are slight, as are those of an expert marksman, and the consequent variations in sound are either unnoticeable to the "naked" ear or, if noticeable, are really unnoticed, since our attention is wholly absorbed in what a person is saying and we give only the slightest heed to the details of sound. It is only occasionally that variations occur large enough to thrust themselves on our attention. Then we call them mispronunciations.

But the variations, though small and unnoticed, will in a given community under favorable conditions accumulate in a given direction. Thus there will be a slow but steady shift in a given direction, which in time will result in entirely different movements, that is, in entirely different sounds. For example, the word stone in Early English was written *stane* and pronounced with the sound of *a* as in *father;* in Chaucer's time the same vowel had the sound of *ou* in *bought* and the spelling was reformed to *stone*. Since then it has shifted to the present pronunciation. The following types of changes occur: (1) Cessation of movement. Sounds become silent, as most *e*'s, at the end of English words, *gh* in *high*, *b* in *lamb*, etc. This change may be facilitated by a stress accent on the preceding syllable. (2) Increase or decrease in the duration of the movement. Example: The Indo-European extra long diphthongs *āi, ēi, ōi,* etc., became the ordinary length diphthongs *ăi, ĕi, ŏi,* etc., in Latin. (3) Variation in extent of movement. This variation affects, for example, the shape of the mouth cavity and the tension of the vocal cords, giving rise to variation in vowel quality, as in *stone*, cited above, and characterizing such shifts as that of Indo-European palatal *k* to fricatives in Sanscrit and Slavic. (4) Anticipation or delay of individual movements composing a group. Such are the voicing of previously voiceless consonants and vice-versa; assimilation both progressive and regressive; and ü Umlaut. (5) Change in the order of movements. This is a fertile source of mispronunciation, but appears to have caused few historical changes.

The causes of these changes are partly physiological and partly psychological, being due to changing chemical conditions in the muscle or to changes in state of mind. Widespread regularity observed in these changes has given rise to the belief that, like other natural phenomena, they follow regular laws; but the conditions determining the changes are extremely complex and difficult to control. Such laws are Grimm's law of consonant change, with its modifications by Verner and Burgmann.

Semantics, or Semasiology; the Science of Meaning.— The simplest word has six "personalities," so to speak; it is an intricate Dr. Jekyl and Mr. Hyde. It has three material forms: the moving muscle, the vibrating air and the written or printed signs. To each of these corresponds a purely mental side: the word picture, as seen "in the mind's eye"; the memory image of the sound and the kinesthetic or "motor" image; that is, the feeling of touch, strain, etc., in the muscles. These are mental states, mental "contents." The picture of a word is the same sort of thing as the picture of a house. Both are made up of ideas of color, shape and direction. We saw above that these are linked to one another by associations, that they are also linked up with the motor areas. We now add that they are linked up with all other mental contents that constitute thought, so that when these last are in consciousness the word images also appear. It is a law of psychology that any mental content may thus be linked up with, that is, suggest, recall or *represent* any other mental content. But all ideas are mental contents and all word images are ideas or mental contents. Meaning is simply one mental content which some other mental content by association calls up, that is, represents. When we hear or see words, their mental images simply through association call into consciousness other mental contents, which are their meaning. Meaning is representation.

Two kinds of mental content enter into all thought: sensation and feeling. The first is the mental state resulting immediately from the stimulus of one of the sense organs. Examples are: red, bitterness, cold, hardness, fragrance, pain, etc. We locate them (except headache) outside of the brain. Combinations of these sensations constitute ideas. No idea ever enters consciousness without awakening a personal response, such as that of pleasure, displeasure, relaxation, strain (as in anxiety), stimulation or inhibition. This reaction is called feeling. Combinations of these feelings constitute emotions and passions. The will is one form of them. On the basis of ideas and feelings abstract ideas develop.

In ideas, as in muscular movement, there is continual variation. The details of form, direction, color, intensity, are continually changing. We never obtain a wholly new idea; it is always a variation or modification of the old. The variations are greatest in childhood; in manhood the ideas become more stable; in old age they approach a condition of rigidity as we draw near to death. Changes in ideas consist in the loss of former elements from them and the addition of new ones.

Of the elements of an idea some are relatively permanent, recurring time after time with the recurring idea, as, for example, the general shape of a horse. Others a temporary, as the color, actions or temper of the horse. A detail may be present once and then disappear forever. Permanency is often, as in the case just mentioned, based on qualities of objects in nature, but often it is not. Again, not all the elements are equally prominent in our consciousness. Some come out clearly, others fade into the background. Now it is the color of the bird on which we fix attention, now his song, now he is for us merely a symbol of the coming of spring.

In the meanings of words, as in muscular movement, the small variations accumulate with time so that a word may eventually have totally changed its meaning. We are not usually aware of these changes any more than we are aware of the sound changes, because our attention is wholly occupied with the present idea and we seldom recall its older form for comparison. But when we read old books, these changes force themselves upon the attention. Comparing old and new meanings, we find that concrete words have become abstract and vice-versa, *comprehend* meant at once time "seize," and we now use *catch, take, get, tumble* in the sense of "understand," that words have suffered restriction or expansion of meaning (a *minister* was originally any servant, now it is a servant of God, or of the state; *gain* originally had the narrower meaning "harvest"), that they have shifted to a higher or to a lower moral value (German *selig* "blessed" is English *silly;* Latin *mens* means "mind," but *mentiri* means "to lie," i.e., falsify). There have also been distinguished (a) changes of non-dominating elements, (b) of dominating elements, (c) of permanent elements, (d) of transitory elements, (e) from ideational content to emotional content and the reverse, (f) in degree of emotional value, (g) ideas corresponding to one sense organ to those corresponding to another, as when we say "a *sharp* knife, a *sharp* tone, a *sharp* taste, a *sharp* man" (the last usage being abstract).

Grammatical Categories.—An especially important branch of semantics is that dealing with the parts of speech and other grammatical categories, the case relationships, mood, tense, voice, number, degree, etc., all of which are the product of the analyzing and classifying processes of the mind. The normal mind quickly develops the power of distinguishing various qualities, such as sex, and their degrees, and of observing relationships of time (present, past, future, before, after, simultaneous), place (in, on, about), cause, effect and so on. Other categories reflect the attitude of mind: purpose, will, desire, probability, doubt, necessity. They run into the thousands. Finnish has 18 cases. One language has over 60. Some of these occur very frequently and are very important dominating elements of thought. Their frequent occurrence, importance and the degree of readiness and closeness with which they fuse with other concepts, are such that the sounds or words representing them act both phonetically and semasiologically in peculiar ways. They find expression in the following forms: (1) Juxtaposition, e.g., *apple tree, tree toad.* Juxtaposition is but the first stage of composition, as seen in *therefore, Johnson;* (2) Relative rapidity of utterance of different sounds or groups of sound, including pauses. (3) Stress of voice, signifying, for example, relative importance; (4) Pitch of voice, indicating interrogation, irony, etc.; (5) order, e.g., *apple-pie, pie-apple;* (6) adverbs; (7) prepositions; (8) conjunctions (including (9) pronouns); (10) auxiliary verbs; (11) inflectional forms: suffixes, prefixes, infixes and various modifications of sound, such as umlaut (mutation) and vowel gradation; (12) often no special formal sign is needed, as when the relationship in which objects stand to each other in nature is so impressed upon us that the mere mention of the objects suggests it. Dickens' character Jingle depended much upon this fact. (13) Lastly the general circumstances and conditions of a conversation and the known purpose of the speaker are valuable keys to the meaning.

The associative processes and sound changes combine to give origin to inflectional endings. Some are known to have originated in composition; in other cases sounds developing in accordance with purely phonetic laws independent of meaning have later taken on the significance of inflectional elements. Adverbs and conjunctions are commonly developed out of inflectional forms of other parts of speech, especially nouns, adjectives and pronouns, but also, the less commonly, from verbs. The preposition is only an adverb "in disguise."

Classification of Languages.—There are a number of principles on which languages may be classified. That most widely known was elaborated by von Humboldt. He distinguished between the outer and inner sides of languages, between the movements and the conceptual forms. He conceived that the latter, being inherent in the human mind, are the same for all nations, but that different peoples expressed them with different degrees of perfection. He considered the most primitive type to be the "isolating" languages, in which the words are all simple roots with nothing resembling inflectional forms. Higher were the "agglutinating" languages which show a partial fusion of roots into loosely united word elements, and highest the inflected type. This principle cannot be applied practically to the classification of the languages of the earth, because few, if any, of them belong exclusively to any one class. As a matter of fact, both the analytic tendency (toward isolation) and the synthetic (toward inflection) are present in all languages at all times. Now one may prevail, now the other, as in Old English there were elaborate inflections, while at present English belongs rather to the isolating type, as does the Chinese. In fact languages show such complexity and variety that it may be doubted whether any principle of classification can be consistently applied to them. The best that can at present be done is to put into groups by themselves certain languages which have conspicuous resemblances in vocabulary and external form. Such clearly defined groups are: The Malayo-Polynesian Group (agglutinative), including Malayan, Melanesian and Polynesian; Bantu or Kafir; Dravidian Group in southern India and Ceylon; Finno-Ugric, comprising Finnic (six languages), Permian, Volga Finnic and Ugrian, the chief language of which

is Magyar; Chinese, an isolating language, as are also the unrelated Anamese, Siamese, Burmese and Tibetan; Turko-Tataric.

There are about 30 groups of languages recognized on the American continent but their relationships are not all perfectly understood. The Semitic branch includes, among others, the Assyrian (with Babylonian), Hebrew, the language of the Old Testament, Phœnician and Arabic (classical and modern). To the Hamitic branch belong Ancient Egyptian, Coptic, Berber and several languages in Abyssinia and adjacent territory. The Indo-European family will be discussed in detail in the next section of this article.

B. Comparative Philology.

In this article only Indo-European Comparative Philology is treated. The Indo-European family of languages contains the following branches:

1. Aryan or Indo-Iranian group. This comprises (a) the Indian languages, that is, literary Sanscrit (both Vedic and Classical) with a very rich religious and secular literature; Pracrit, the ancient vernaculars, from which many of the spoken languages of modern India are descended; Pali, the language in which the Buddhistic writings are largely preserved. Modern Gipsy also belongs here. (*b*) The Persian group, that is, Avestan (the language of the Zend Avesta); Old Persian (the language of the cuneiform inscriptions); Middle Persian or Pehlevi (till about 700 A.D.); Modern Persian, Kurdic, Ossetian and Baluchi; Parsi, the language of the Fire Worshippers.

2. Armenian, old and modern.

3. Greek, with its many dialects and marvelous literature. The chief ancient dialects were Attic-Ionic, Doric and Æolic; the main historical periods are Homeric, Classical Attic, Hellenistic, Byzantine, Modern.

4. The Illyrian group, represented by the Albanian.

5. Italic group, comprising Latin and the Oscan-Umbrian dialects. From spoken Latin disseminated throughout the Roman Empire the Romance languages have developed.

6. Celtic, including the language of the ancient Gauls, and modern Welsh, Cornish, Scotch and Irish, the last with an important literature.

7. Germanic or Teutonic, represented by (a) old Gothic; (b) Scandinavian (Danish, Swedish, Norwegian and Icelandic); (c) West Germanic with its various older dialects from which modern German, Dutch, Flemish and English are sprung.

8. Balto-Slavic includes (a) Lithuanian, Lettish and Old Prussian (now extinct); (b) East-Southern Slavic (Russian, Bulgarian, Serbian, Croatian, Slovenian); Western Slavic (Czechish Bohemian, Wendish, Polish and Polabian).

It is known that all of these had their origin in dialects of one common language, the home of which on linguistic and archæological evidence is generally conjectured to have been between the Baltic and the Caspian seas. Thence they spread by migrations to their later habitats. By the separation thus brought about and in some cases at least by race mixture the differences between the dialects increased until they became distinct languages, which in their turn spread over larger areas, and broke up again into dialects. These later dialects developed into still other languages, and so on indefinitely. This process is still going on, though more slowly, because of the closer communications existing between nations. It is possible, perhaps even likely, that the Celtic and Italic groups arose from one common dialect, just as did Baltic and Slavic or Indian and Iranian; in which case we should have to speak of an Italo-Celtic group instead of two separate groups. Each of these Indo-European groups developed separately, no one of them springing from another. Thus English is just as closely related by origin to Hindi or Bengali or Russian or Czechish as it is to Irish or French, although the extensive borrowing of French words in modern times gives the English vocabulary a closer resemblance to the French.

The reconstruction of the primitive dialects is accomplished (only, of course, to a very slight degree) by discovering through comparison of the related languages what were the original sounds, words, forms and meanings. It must be understood, however, that it is impossible to reconstruct combinations of words. For, while we may reconstruct two different words, we cannot be certain that both were used in the given form in a given dialect at the same time. Furthermore all reconstructions are only approximate. But philologists are not distressed on this account, since they are interested not in discovering the starting points of modern forms (which, after all, were only end points as compared with the innumerable forms that for ages preceded them), but in discovering the nature of the changes that took place and the laws by which they were governed.

We know that the early dialects possessed roughly the same group of sounds as is described in the earlier part of this article. It doubtless possessed at one time a strong stress accent which appears to have brought about such variations in vowel sound as are seen in Greek tithēmi, thĕtos, tethmos, which show the vowel *e* as long, short and vanished. It also seems that at least in the eastern area this accent was combined with a marked musical or pitch accent. Compound words were freely formed. There was extensive use made of suffixes and prefixes in derivation. There was very elaborate inflection: three genders (not referring, however, mainly to sex); three numbers (singular, plural and dual); eight case forms were differentiated in the singular, six in the plural and four in the dual; the verb had forms distinguishing actions as beginning, ending, progressing, completed or momentary, but gave less accurate expression to the time; it had also desideratives, intensives, causatives and iteratives; the verb had also three persons, three numbers, five moods, two voices, active and middle, but apparently no special passive form; there were also various verbal nouns and verbal adjectives. The noun and verb show some striking resemblances in form, which suggest that at a much earlier period they, like the English noun and verb (cf. the word *stone* used both as a noun and a verb), were only slightly differentiated or not at all.

For the *Origin of Language*, see Speech, Genesis of.

C. History of Language Study in Europe.

The scientific study of language in Europe began with the Greeks, who, however, were not interested in language for its own sake so much as for the light its study threw on other fields of knowledge. Plato investigated etymology because he hoped thereby to learn something of the nature of material things. Aristotle, who studied language as an accessory to logic and dialectics, investigated especially the relations between thought and the forms of words. His main contribution was the definition of some of the parts of speech and some of the categories of the noun and the verb. He is justly regarded as the founder of systematic grammar. The Stoic philosophers extended and supplemented his definitions till they covered practically the whole field of grammar. Unfortunately the domination of their thought by logical theory led them into some errors. The work of the Greeks was summed up in two grammars (that of Dionysius Thrax in the 1st century B.C. dealing with sounds and inflections, and that of Apollonius Dyscolus in the 2d century A.D. dealing with syntax), which have served as models for the thousands of systematic grammars since composed in Europe. The Roman grammarians added practically nothing to the achievements of the Greeks, contenting themselves with translating their words into Latin and adapting them to the Latin language. (See Donatus; Priogian). The Scholastic philosophers (from the 12th century on) did positive harm by completely subjecting grammar to logical theory. Grammar became practically "applied logic" (see Nonius). The last representative of this school was the German Gottfried Hermann (1772–1848), who, however, endeavored to combine the older ideas with the Kantian categories. Some slight influence was exerted in Europe by Arabic grammarians by way of Spain. In addition the Hebraist Reuchlin (1455–1522) introduced the idea of "roots," that has played so important a part during the last 150 years.

A new era in language study begins with the development of the "historical-philosophical" school in the earlier part of the last century. The change was determined chiefly by the growth of Romanticism and the "discovery" of Sanscrit. Language study was more completely liberated from the domination of logic and speech came to be thought of rather as an historical development than as a static structure. The wonderful enthusiasm for language study then prevalent was stimulated by such works as Schlegel's 'Sprache und Weisheit der Inder' and von Humboldt's 'Kawi Sprache.' Franz Bopp (1791–1867), starting out to investigate the nature of verbal endings, published a series of works which laid the foundations of Comparative Philology. Sir Wm. Jones had recognized Greek, Latin, Sanscrit and possibly Gothic and Celtic as related languages. Bopp added Zend (in 1816), Lithuanian and Old Bulgarian (1833–35) and Albanian (1855). He laid the foundations for the later work of Pott (in etymology), Fick (lexicography), Schleicher (critical phonology) and Schrader (prehistoric antiquities of the Aryan people). The books of Max Müller, professor in England, and William D. Whitney, American, have popularized the whole subject, which is summarized in Brugmann and Delbrück's 'Principles of Comparative Philology of the Indo-European Languages' (7 vols., in German). Grimm's 'German Grammar' (Vol. I, 1819) is the first great embodiment of the historical point of view. He directed his attention mainly to the changes continually occurring in the living spoken dialects of Germany (instead of studying older literary remains) and on the basis of a previously unparalleled collection of data, he deduced the famous statement of Indo-European consonant changes known as Grimm's law. This and the similar work of other later scholars combined with the invention of instruments for the exact measurement of muscular movements and air waves has led to the development of the important field of *Experimental Phonetics.* Most important of all, however, is the fact that in language study the laws of psychology have replaced the laws of logic as the basis of the methods employed in all investigations. As a result of this, language study has taken its place beside jurisprudence, history, economics, etc., as one of the Humanistic or Psychological Sciences.

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Clarence L. Meader,
Professor of Latin, Sanscrit and General Linguistics, University of Michigan.

LANGUAGE MAP OF EUROPE. (a) The Romance Languages.— Portugal is about the only country in Europe that has no language question, because only one language, Portuguese, is spoken in it. In the 12th century the Galician (Gallego) dialect of Spanish, to which it is closely related, and which is still spoken in the northwest of Spain, was used by Spanish and Portuguese poets alike. Outside of Portugal, Portuguese is spoken in the Azores, the islands of Madeira and Saint Thomas, in the Portuguese colonies of India and Africa, and is the official language of Brazil. Spain is less fortunate. Although the greater part of the people speak dialects more or less closely related to the Castilian of the centre, which is the official language, namely Aragonese in the northeast, Asturian in the north, Leonese and Andalusian in the south, yet the Galician is more nearly Portuguese, and the Catalonian of Catalonia and the Balearic Islands must be considered, and is so claimed by the natives, a distinct language, which is more closely related to the Provençal of the south of France. Besides, the Basque of the provinces of Guipuscoa and Biscay, and of a part of Navarre and Alava, is not even an Indo-European language, but a remainder of the ancient Iberian tongue of the peninsula. Outside of Spain, Spanish is spoken in South and Central America, in Mexico and some Southern States of the United States, in the Philippines, the Canaries, the Carolines, while Catalan is spoken in the southwest of France, to the east of Perpignan, in Cuba and in the Argentine Republic.

Except for a spur of the Basque in the Basses Pyrenées, the Catalan at Perpignan, the Celtic Breton sporadically still spoken at Finistere, Côtes-du-Nord, and the Morbihan, and a Flemish border in the northeast, the rest of France is divided up between the French and the Provençal dialects of the Romance family. The Romance line in the north runs from Gravelines through Merville, Steenwerck and Nieppe, then follows the Lys and passes into Belgium. The linguistic line in Belgium runs approximately along the West Flanders and Hainaut borders, enters Brabant and runs to Longuey, where the line turns to the east and follows the Luxemburg frontier. It takes in Metz, Sarrebourg in Lorraine and a part of Alsace, and from Münster follows the border up to Switzerland, where it cuts the cantons of Soleure and Berne, goes to Lake Brienne, follows Lake Morat, goes through canton Freiburg and over Mount la Berra, then runs through the southern part of Berne and the Col du Valais, follows the Italian frontier up to Savoy, runs along the Piedmont, and goes as far as Menton.

In the departments of Haute-Garonne, Ariège, Gironde, the Gascon is spoken, which is now generally considered to be a separate language, rather than a dialect, that stands in the same relation to the Provençal that Portuguese occupies in regard to Spanish. The rest of the French territory consists of the *Langue d'oeil,* which contains the official French, and the *Langue d'oc,* to which the Provençal dialects belong. It is not possible to run a well-defined line between the two, but approximately an irregular line, which runs east of Angoulême, south of Montluçon and Lyons, and north of Geneva, almost to Bern, is the southern limit of the French dialects. Besides, the southeastern dialects, which include those spoken in Switzerland, in Savoy and in a part of the Franche-Comté, are mixed, and generally go under the name of Gallo-Roman. The official language of France is the one which evolved out of the dialect of the Isle-de-France. With the growth of the French colonies it also spread in America to Canada, where some 3,000,000 speak a peculiar patois, in Louisiana, in the western part of San Domingo, at Dominique, in some of the Antilles and in French Guinea. In Africa it is spoken in Algiers, Madagascar and, besides, in the smaller French colonies, both in Africa and in Asia.

Although the official language of Italy is the one which evolved out of the Tuscan dialect, the country represents even more varieties of Romance than does France. The Gallo-Roman dialects are found in Liguria, Piedmont, Lombardy and in Sardinia. Then there are the distinct Venetian, Corsican, Neapolitan, Umbrian, Abruzzan and Sicilian, which differ widely from the official language. In the northeast a line running west of Triest and east of Udine is the eastern border of the Friulan, which is sometimes considered to be a separate language, closely related to the Ladin of the Alps. This Ladin is in the west found in the Grison region of Switzerland, in the centre in the western Tridentino, also in Switzerland, and in the eastern Tridentino and the Alto Beluno, where it also enters Italian territory. In addition to this we have Provençal spurs in the northwest, the German Tredici and Sette Communi in the north, and a few Greek spots south of Brindisi, while about Brindisi and in a long strip to the north of it, as well as sporadically in Calabria and in Sicily, there are Albanian settlements. Outside of Italy, Italian is spoken extensively in the Argentine Republic and in the United States. We still have a Romance group in the East, whither it was transplanted during the Roman domination. As Daco-Rumanian it is spoken in Rumania proper, and the linguistic line runs far into Hungarian and Austrian territory, along an irregular line, east of Weisskirchen near the Danube, Temesvar, Gross-Wardein, to the Theiss River. Here it turns due east, past Sziget and south of Czernowitz, after which the line runs very irregularly to the Dniester in Russia, and down the Dniester to the Black Sea. To the east of the Dniester there are a large number of Rumanian settlements, of considerable size, almost up to the Dnieper. To the west of the Dniester there are considerable Russian bases to the north of Kishinev, and the whole Black Sea littoral up to the mouth of the Danube is settled by Bulgarians. In the Dobrudja the Rumanians are almost cut off from the sea by a large Tatar region, but the whole of the Danube in the Dobrudja is Rumanian. From there to the west there are but few Rumanian settlements to the south of the Danube, except for a large oasis to the northwest of Vidin, in Serbian territory. Within the compact Rumanian region there is a solid Hungarian block from Marom Vasarhely in the west to beyond Beretsk in the east, and from near Brasov in the south to the river Maros

in the north, and a large number of minor Hungarian settlements throughout the region north of Rumania proper. There are also very many German colonies throughout that region and solid German blocks around Brasov, south of Naszod, and in the Banat, which has Croatian territory to the south and west, Hungarian territory to the north and Rumanian territory in the north and east.

The Macedo-Rumanians are found in a long oasis running north and south about Samarina, Avdela, Perivoli, Mezovon, Syraku, Kraina, in Macedonia and in scattered settlements in Albania, almost as far as Bitolia. Of the Istro-Rumanians there are but a few isolated settlements south of Monte Maggiore, but they are rapidly adopting the Slavic language of their surroundings.

(b) The Germanic Languages.— We have already discussed the western limit of the Germanic languages on the Continent. In the south the line runs from Monte Rosa over the heights of the southern Alps, over the Saint Gothard, to the south of Samnaun, over Laurein, Salurn Altrei, south of Brixen, Innichen, Pontafel, Villach, Klagenfurt, Mahrenberg, Mureck, Radkersberg, but from Pontafel to Radkersburg there are numerous German colonies to the south, in Slovenian territory, the largest being the one around Gottschee, while a large Slovenian settlement is found in Austrian territory. At Radkersberg the German linguistic line runs north inside Hungarian territory (through Eberau, Rechnitz, Oedenberg, around Wieselberg and Pressburg, from where it runs along the Hungarian border as far as Hohenau. Here it gradually turns in a westerly direction through Moravian and Bohemian territory, leaving Znaim, Riegerschlag, Krumau, Neumark on the Germanic side. Here it turns to the northeast, just grazing past Pilsen, Leitmeritz and Reichenberg. Then it turns southeastward in a very irregular line as far as Olmütz and reaches Troppau in Silesia. But there are numerous German colonies in Hungary on both sides of the Danube, from Neustadt to Neusatz, and large settlements in Bohemia and Moravia about Budweis, Iglau, Landskron, Brünn, and in the Slovak country, about Kremnitz, Käsmark, Göllnitz.

From Troppau, northward to the sea, the linguistic line is very broken, there being hundreds and thousands of German colonies through Galicia, Poland and Russia, as far as the Volga. But running a straight line northward through Oppeln to Kempen, thence to the northwest through Lissa to Bentschen and Schwerin, thence to the northeast through Bromberg, Allenstein, Goldapp, thence in a semi-circle through Eydtkuhnen to Polanzen on the sea, most of the territory to the left is German. But there is very mixed Polish strip from Bromberg to Danzig, and for a distance of some 40 miles to the west of the Vistula. Besides, to the northwest of Danzig there is a solid settlement of Kashubs, speaking a language closely related to Polish, and around Kottbus and Bauzen there are two large oases of people speaking a language intermediate between Polish and Bohemian, known as Wendish or Serbo-Lusatian. If a line be drawn from Karge in the east to Cologne and Aix-la-Chapelle in the west, the territory to the south represents the High German, from which the official language is derived, while the northern part represents the Low German dialects. According to the Pan-German atlas of 1900 the whole world is more or less German. Thus the United States are 4.6 per cent German, forming 32 per cent of the foreign-born population. Milwaukee is given there as 66 per cent German, Hoboken as 57 per cent, etc. Rio Grande do Sul in Brazil is 28 per cent German. Canada is 7 per cent, South Africa 5 per cent German, and so forth. This map explains much of the World War.

A line running from Eupen, to the southwest of Aix-la-Chapelle, past Cleve, Emerich, Bentheim, Neuhaus to Emden, separates the Low German group in the east from the Dutch in the west and Frisian in the north. But a strip of territory along the western part of Jutland, as far as Tondern, including the Sylt and other islands, is also Frisian. A line running west and east, from below Tondern to above Flensberg, separates German from Danish, so that a considerable part of German Schleswig is linguistically Danish.

Denmark and Norway are linguistically almost identical, and Sweden differs from them only by a different official language. Norway and Sweden have Lap inlets, and Swedish is spoken outside of Sweden in the provinces of Esterbothnia and Nyland in Finland, and in the Aland Islands. In addition, we have the related Icelandic in Iceland.

The remaining Germanic language, English, is spoken in Great Britain, but in the northwestern, western and southern counties of Ireland Gaelic is spoken to some extent, even as Scottish Gaelic is preserved in the extreme northwest of Scotland, and Welsh through a considerable part of Wales. The Pan-German map mentioned above accredits 25.8 per cent of the population of the earth as speaking English.

(c) The Slavic Languages.— The western boundary of the Slavic nations was determined as the southern and eastern boundary of Austria and Germany. We can now establish the various subdivisions within this group. The Slovenian language is spoken in southern Carinthia and Styria, in Carniola and part of Istria. The western line runs from Neuenmark, to the west of Triest, to Görz, passes through Italian territory and follows the political borderline as far as Pontafel. From here it turns due east to Villach, having German settlements within the line, however, and runs somewhat north of the Drau, and strikes the Mur at Mureck. From here it runs into Hungarian territory as far as S. Gotthard, to the north, abruptly turns south to Warasdin on the Drau, then to the southwest, taking in Agram and Nesselthal, and not quite reaching Fiume, through northern Istria, to a point south of Triest, leaving the littoral chiefly to an Italian populace. The Serbo-Croatian language is spoken to the southeast of it. The line runs from Mureck along the Mur until its union with the Drau, thence along the Drau up to its union with the Danube, then down the Danube to Weisskirchen, where Rumanian territory is reached; but from Esseg on there are numerous Serbian settlements to the north of the river, as far north as Segedin. Going

up the Morava to Leskovac all the territory to the west is Serbian, but the triangle between the Morava, Danube and a line running, from Leskovac past Nish to Negotin, is chiefly Serbian at the periphery, but Rumanian at the core. From Leskovac the line runs to Vranya, from there westward to Skopye, thence in a semi-circle to Scutari. But there are numerous Serbian colonies in northern Albania. Thus all of Dalmatia, Slavonia, Sirmia, Bosnia, Herzegovina, Montenegro and the greater part of Serbia are Serbo-Croatian, while a spur from Nish to Pirot in Serbia is Bulgarian. The Serbo-Croatians and Slovenians form together the Yugo-Slav division of the Slavs.

All the territory south of the Danube, from Vidin to Kustendji, and to the east of the Serbian line, which, however, has to be extended from Skopye to Kostur, thence to Saloniki, then straight to Seres and all along the littoral almost up to Constantinople, is chiefly Bulgarian. But there are within this territory innumerable Albanian settlements in the west, Greek colonies along the Ægean, the Sea of Marmora and the Black Sea, and Turkish colonies in the interior. Besides, there are several Bulgarian spurs into Albania and a considerable number of colonies in southern Albania and in northern Greece. On the other hand, much of the Bulgarian territory in Macedonia is claimed by the Serbians to be Serbian, because in reality the Bulgarian and Serbian dialects pass here into each other.

If a line be drawn from Kostur to the Adriatic opposite the island of Corfu, all the territory to the north not yet accounted for is held by a non-Slavic race, the Albanians, who have also many colonies in Greece, especially in Attica. If a line is continued from Kostur to Saloniki, most of the territory to the south, including the islands in the Ionic and Ægean seas, is Greek.

The Czech and Slovak linguistic line was defined by the German circular line from Pressburg, around Pilsen, to Tropau. A line running up the Morava, above Pressburg, to Skalica, thence along the Carpathians up to Babia Gora, forms the southern border of Czech. Continuing the line in a semi-circle to Neumarkt, thence in a very irregular line to Kaschau, and from there almost in a straight line westward to Pressburg, it includes the Slovak subdivision of the Czecho-Slovak territory. There are, however, numerous Slovak colonies as far down as south of Budapest. If a line be drawn from Kaschau to Siget, thence to Czernowitz, and from Kaschau a semi-circle be drawn to the west, as far as some distance south of Przemysl, then past Yaroslav to Lezaisk, we get the western limit of Ruthenian, which belongs to the same group as Little Russian or Ukrainian. The rest of Galicia, north of the Slovak territory, is Polish. If a straight line be drawn north from Lezaisk to Suvalki, all the territory to the west, up to the German border, is Polish, except for Ruthenian indentations, as far as the river Narev, and White Russian indentations to the north. A semi-circle from Suvalki to Vilno, thence an irregular line to Dvinsk, and from there a fairly straight line past Busk to the sea north of Memel, up to the German border in the west and with deep spurs into German territory, include the non-Slavic Lithuanians. Proceeding from Dvinsk up the Dvina as far as Druya, then drawing a line northward to near Izborsk, thence northwestward to the sea, we get the Letts to the north of the Lithuanians. But the Lithuanian territory is dotted with Polish and Russian settlements, while the Lettish territory is similarly filled with German colonies, and, in the east, with Great Russian oases.

To the north of the Letts live the Esthonians, who almost reach to lakes Pskov and Peipus, then down the Narova to the sea. The islands of Dagö and Ösel are also Esthonian. The Esthonians are not Indo-Europeans, but belong to the same group as the Finns. Various Finnish races, in small groups, occupy the littoral from the Narova almost to Petrograd. North of Petrograd, between the Bay of Finland and Lake Ladoga, as far up as Rautus, the population is mixed Russian and Finnish. The southern littoral of Lake Ladoga, up to the mouth of the Swir River, is Russian. If a straight line be drawn from here to Perm and the Urals, most of the territory to the south would be chiefly Russian. To the north of this line they live only along the rivers, the largest block being on the Kama, north of Perm, as far as Cherdyn. The southern line of the Russians runs along the Black Sea to Gagri in the Caucasus. Thence a line to Aleksandriskaya on the Caspian Sea forms the southernmost border of the Russians. Within this region, we distinguish between the Little Russians or Ukrainians, related to the Ruthenians of Galicia, in the governments of Chernigov, Poltava, Kharkov, Voronezh, Podolsk and parts of Kherson, Ekaterinoslav and the Crimea. Eastward they have been settling in the government of Stavropol and as far as the Volga. The White Russians occupy the greater part of the governments of Grodno, Vilno, Vitebsk and Smolensk, and all of Mogilev, and a small part of Chernigov. The rest of the Russian territory belongs to the Great Russian dialects. But it must be borne in mind that there is no strict division of these groups, as dialects pass into each other at the points of meeting. The vast territory of Russia has, besides, a large number of other than Indo-European linguistic blocks.

Finland, except for the littoral in the bays of Bothnia and Finland, which is Swedish, and the extreme north Uleaborg, which is inhabited by the Lapps, is Finnish. Related tribes are Carelians, between lakes Ladoga and Onega, and as far north as Lake Pavozero, and also in many settlements in the government of Tver; the Esthonians, already mentioned; the Mordovinians, in many settlements in the governments of Nizhegorod, Penza, Simbirsk, Saratov, Samara; Cheremisses to the north of the Volga and to the west of Kazan; Votyaks between the rivers Vyatka and Kama; Syryans along the rivers Vychegda, Mezen and Pechora. Of Turkish people the most numerous are the Bashkirs between the rivers Ural and Kama; the Tatars in the government of Kazan and along the Kama, also in the Crimea; the Chuvashes on the Volga, near the Kama; the Tatars and Nogays south of the Volga, along the Caspian Sea; the Kirgizes to the north of the Caspian Sea, east of the Volga. Of Mongols we have the Calmucks, on the upper Ural, between the Kirgizes and the Bashkirs.

The races of the Caucasus baffle any brief description and must be treated separately.

To the same linguistic group as the Finns belong the Magyars or Hungarians, who occupy all the territory of Hungary not otherwise described as occupied by Slavic people. In addition to the Tatar settlements of the Dobrudja there are the related Turks in the littoral of the Ægean and in small scattered colonies in Macedonia. In about the same regions are also found scattered colonies of Armenians who belong to the Indo-European group. There are also Armenian colonies in Galicia, who, however, are rapidly becoming Polonized. We have also one Semitic language in Europe, namely, Maltese, a curious mixture of Arabic and Romance, which is spoken at Malta and Pitayusa, islands of the Mediterranean.

LEO WIENER.

LANGUE D'OC, läng-dŏk', the Provençal tongue of the south of France. See PROVENÇAL LANGUAGE; PROVENÇAL LITERATURE; FÉLIBRIGE.

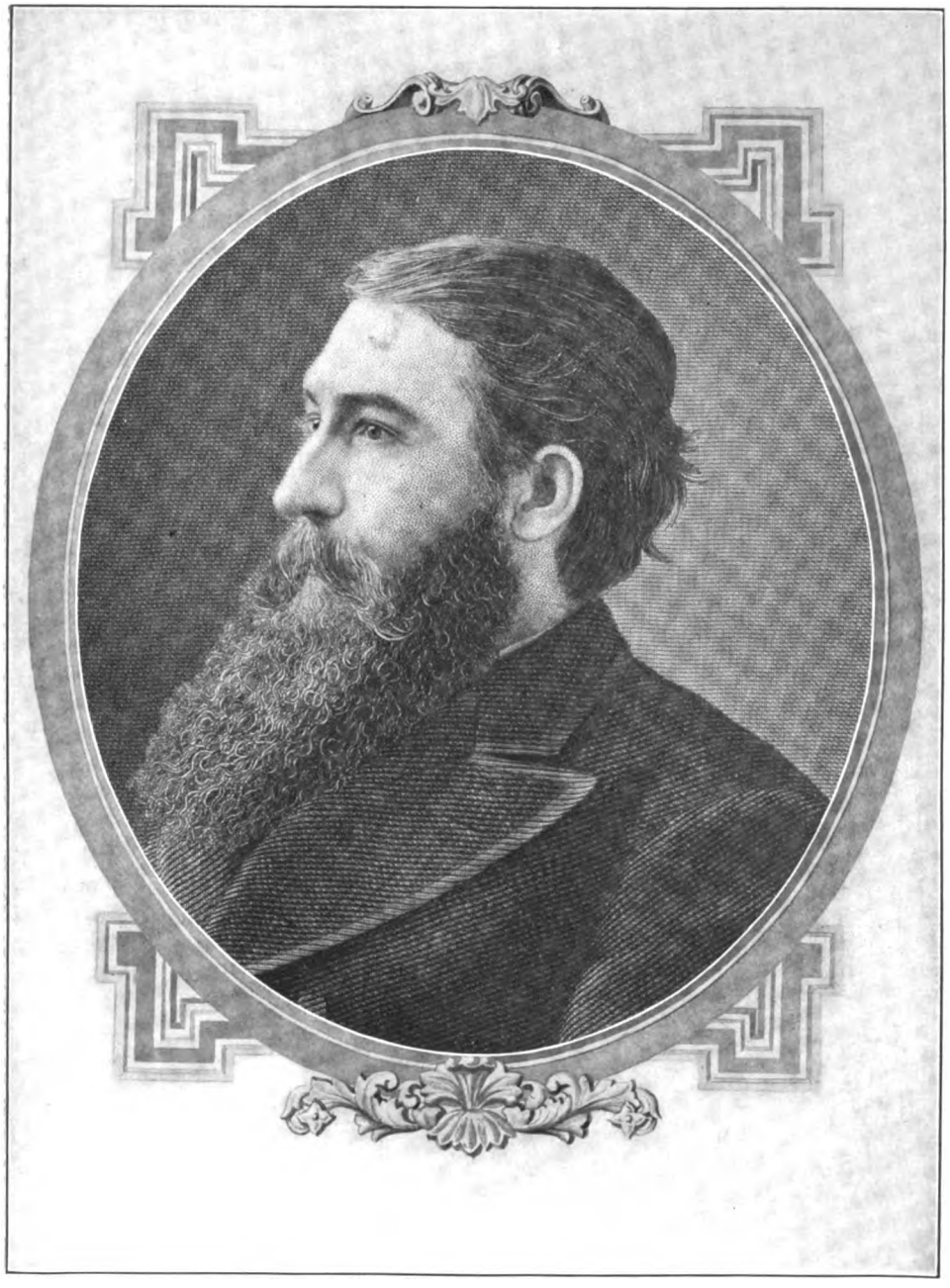
LANGUEDOC, läng'gwē-dŏk (Fr. läñ-gē-dōk), France, a former province, varying very considerably in extent, its unity being entirely a political creation, but including the present departments of Aude, Tarn, Hérault, Lozère, Ardêche and Gard, as well as the arrondissements of Toulouse and Villefranche, in the department of Haute-Garonne; and the arrondissements of Puy and Yssingeaux, in the department of Haute-Loire. Toulouse was its capital.

LANGUR, läṅ-goor', a monkey of the genus *Semnopithecus,* containing large leaf-eating species of the Himalaya Mountains, India, southward into Ceylon, southwestern China and the Malayan region eastward as far as Java. The genus represents an interesting transition-group between the gibbons and the catarrhine monkeys, and includes a large assemblage of species with a long, thin body, tall hind-legs, long, slender tail and no cheek-pouches, such as the entellus, or sacred monkey of the Hindus, the wanderoos of Ceylon and several locally conspicuous kinds. These monkeys dwell chiefly in forests and go in troops of considerable size. They feed on leaves and fruit, often doing much damage in native plantations. They rarely descend to the ground, and when disturbed there seek to escape by prodigious bounds; but ordinarily they remain in the tree-tops, and progress by swinging from branch to branch, one arm after the other, often at surprising speed. Twenty-nine species are described by H. O. Forbes in his monograph in Allen's 'Naturalists' Library' (London 1894).

LANIARD, or **LANYARD,** a small rope, usually a four-stranded hemp rope, used on a ship. It is employed in setting up rigging, being rove through dead eyes, and in making fast heavier ropes or other objects. The article to which the rope is attached gives it the names bucket-laniard, lock-laniard (for firing the percussion hook of a cannon), etc. A knife-laniard is the broad white tape for carrying a knife around a sailor's neck and is a part of the regulation uniform in the United States navy.

LANIER, lă'nyĕr, or **LANIÈRE, Nicholas,** English musician: b. London, 1588; d. there, February 1665 or 1666. He came of a family of French musicians who had served for generations in the English royal household. He became a musician in the royal household about 1604 and subsequently was master of the king's music under both Charles I and James I. He followed the royal family into exile and after the Restoration resumed his former post of master of music. He composed the music for Ben Jonson's masques 'Lovers Made Men' and 'The Vision of Delight,' introducing the Italian «stylo recitativo» into England. He was also a painter and a connoisseur of art, and was in Italy in 1625–28 buying pictures and statues for the collection of Charles I. Portraits of Lanier painted by Van Dyck, Jan Livens, Isaac Oliver and Lanier himself are in existence. Of his music much remains in manuscript, but a large portion of it is published in 'Select Musicall Ayres and Dialogues' (1653, 1659); 'The Musical Companion' (1667); 'The Treasury of Music' (1669), and 'Choice Ayres and Songs' (1685). The Lanier family continued to inherit its talent for music, the American branch being represented by Sidney Lanier (q.v.).

LANIER, Sidney, American poet: b. Macon, Ga., 3 Feb. 1842; d. Lynn, N. C., 7 Sept. 1881. His father, Robert Lanier, a lawyer of Macon, came from a family noted for a love of music and art. An ancestor, Jerome Lanier, a Huguenot refugee, was well known at the court of Queen Elizabeth as a musical composer; another forebear, Nicholas Lanier, was director of music at the court of James I and Charles I, and first marshal of the Society of Musicians incorporated at the Restoration. Sidney Lanier's mother, Mary Anderson, belonged to a prominent Virginia family also noted for decided talent for music and poetry. The poet's artistic temperament was therefore a direct inheritance. As a child Lanier was passionately fond of music and without any instruction learned to play on the guitar, piano, flute and violin. A critic said of him in later years: "In his hands the flute was transformed into a voice that set heavenly harmonies into vibration." This passion for music also showed itself in his keen sensitiveness to rhythmic effect. At 14 he entered the sophomore class of Oglethorpe College, Georgia, and after three years graduated with distinction. He was tutor in the college until the outbreak of the Civil War, when he joined the Confederate army as a private soldier. He fought in several important battles, was transferred to the signal service and finally became signal officer of a blockade runner. In the autumn of 1864 he was captured and confined in Point Look Prison. He had taken advantage of every leisure moment to pursue his studies in literature, modern languages and music, and during his long idle hours in prison he gained a complete mastery of the technique of the flute. He was released in February 1865 and made his way on foot to Macon, but the fatigue of the journey added to the previous hardships of camp and prison caused a severe illness which did irreparable damage to his lungs. The years that followed were years of hand-to-hand fight for a subsistence. For two years he was



SIDNEY LANIER

clerk in a hotel in Montgomery, and there wrote his novel 'Tiger Lilies,' a book of power and promise, but hastily written and poorly sustained; he taught at Prattville, Ala., and studied and practised law with his father for five years in Macon. In December 1867 he married Miss Mary Day of Macon, and her belief in his genius, her willingness to endure with him privation and hardship made possible the valiant struggle and the achievement of the next 14 years. In the autumn of 1873, after an unsuccessful attempt to re-establish his health by a winter in Texas, he determined to move to Baltimore, where he could find greater opportunities for culture. He played the flute in the Peabody orchestra; in the intervals of hemorrhage he wrote articles for magazines; he gave lectures on literature in private schools; and thus, with the generous aid of his father, he supplied the necessities of his family. His study of languages, of Anglo-Saxon and early English texts, of English and of foreign literature, was incessant and systematic. In February 1879 he was appointed lecturer on English literature at the Johns Hopkins University, and this position he held until his death. His two principal courses of lectures at the university are embodied in his 'Science of English Verse' (1879), a thorough and suggestive treatise on English metre, declaring that English verse depends on stress, not accent, and that it is based on certain easily recognized musical rhythms, and 'The English Novel,' a masterly treatment of the development of the idea of personality and its place in the modern novel. Again and again Lanier was driven by illness to Texas, to Florida, to North Carolina, but he was never idle; he studied much, he thought largely on all vital subjects, on love, life, art, economics, religion, and now and then he gave to the world poems of exquisite truth and beauty. In the spring of 1881 it became evident that the unequal fight was nearing its end, and as a last resort he tried tent life in the mountains of North Carolina. The last illness came at Lynn, in Polk County, and on a morning of early September he passed away.

Lanier's most important prose works besides those already mentioned are 'The Boy's Froissart' (1878); 'The Boy's King Arthur' (1880); 'The Boy's Mabinogion' (1881); 'The Boy's Percy' (1882); 'Shakespeare and his Forerunners' (1902). His best-known poems are 'Hymus of the Marshes'; 'Clover'; 'The Song of the Chattahoochee'; 'The Crystal'; 'Corn'; 'The Symphony' and 'The Centennial Meditation.' The distinctive characteristics of his poetry are a wholesome outlook upon life, a constant recognition of the highest in character and in thought and a varied fresh and melodious rhythm. His passion for good and love, his robustness, his high conception of the meaning and power of the love of man and woman, proclaim his close kinship to Browning. In questions of social economics Lanier was abreast of his time; he believed in the rights of the individual, he hated the iron hand of unjust trade, but he realized that these problems must be solved in the "patient modern way." He knew that the great poet must be an artist in sound and color, as well as a thinker, and that no labor was too arduous for perfecting verse forms; to attain perfection in his art the poet must make the mechanical verse fulfil its vast possibilities, he must gain the mastery over imagination, so that imagination may become his servant. But for Lanier there was no art for art's sake; art was consecrated to man and to God. Like all true poets he lived near to nature, and he has described our Southern scenery with loving faithfulness warmed by vivid imagination. He has given new meaning to "our forests of live-oak beautifully braided and woven with intricate shades of the vine; to our broad fronded fern and keen-leaved canes." The luxuriance of the Southern forests, the wealth of undergrowth, the warmth, the color, the singing birds live in his poetry, but there is no undue heat, no tropical languor. Whittier has not been more faithful to the rocky coasts, to the snowstorms of New England, than has Lanier to the South. His letters and complete poems were edited by his widow with a memoir by William Hayes Ward (New York 1881, 1884, 1906), with bibliography. Consult also 'The Lanier Book' (New York 1904), and Nims, 'Sidney Lanier' (Boston 1905). See 'SONG OF THE MARSHES.'

EMILIE W. MCVEA,
President of Sweet Briar College, Sweet Briar, Va.

LANJUINAIS, lān'zhwē'nā', **Jean Denis,** COUNT DE, French statesman: b. Rennes, 12 March 1753; d. Paris, 13 Jan. 1827. He took his degree as doctor of laws at 19 years of age and was qualified for the bar at that time. He was appointed counsel for the Breton estates and was a successful legal practitioner when he became professor of ecclesiastical law at the University of Rennes in 1775. He was a deputy in the States-General in 1789 and demanded the abolition of titles of nobility, working valiantly for a constitutional monarchy meanwhile. At the Convention of September 1792 he was charged with reactionary views; but while opposing the extremes of the Mountain and its following, Lanjuinais remained faithful to Republican principles. He denied the right of the Convention to condemn to death Louis XVI, but voted for banishment in the hope of saving the monarch's life. He came under arrest with the Girondins but escaped to Rennes and concealed himself until after the downfall of Robespierre. He returned to the Convention on 8 March 1795 and was president of the Upper House during the Hundred Days. He opposed Napoleon and upon the restoration of the Bourbons he was created a peer. As a member of the tribunal which tried Marshal Ney he voted for exile. He wrote 'Constitutions de la nation française' (1819); 'Appréciation du project de loi relatif aux trois concordants' (1806; 6th ed., 1827); 'Études biographiques et litteraires sur Antoine Arnauld, P. Nicole et Jacques Necker' (1823), etc. His collected works were published in four volumes in Paris (1832).

LANKESTER, Edwin, English scientist: b. Melton, 23 April 1814; d. 30 Oct. 1874. His early medical studies were attended with difficulty, he had a short course at the University of London, and took his M.D. at Heidelberg in 1839. In 1840 he settled in London as a lecturer and writer, and in 1850 he became professor of natural history at New College, London. He was appointed lecturer on anatomy and physiology at the Grosvenor Place School

in 1853, and in 1853–71 was joint editor of the *Quarterly Journal of Microscopic Science*. His microscopic examination of the water from the "Broad Street Pump," undertaken with Dr. Snow, identified the outbreak of the cholera epidemic of 1854 with the famous pump. He was an indefatigable and popular worker on matters concerning sanitation and public health, many of his articles and lectures being prepared for the layman. His work was taken up by the National Health Society. In 1855 he edited for the prince consort William Macgillivray's 'Natural History of the Dee Side and Braemer' (privately printed). He contributed the article 'Rotifera' to the 'Cyclopædia of Anatomy and Physiology,' and wrote a school manual, 'Health, or Practical Physiology' (1868); 'Lives of Naturalists' (1842); 'An Account of Askern and its Mineral Springs' (1842); 'Half-hours with the Microscope' (1859), etc.

LANKESTER, Sir **Edwin Ray,** English zoologist: b. London, 15 May 1847. Educated at Downing College, Cambridge, and Christ Church, Oxford, he was elected a Fellow and lecturer of Exeter College, Oxford, in 1872; 1874–90 he was professor of zoology and comparative anatomy in University College, London, and from 1891 till 1898 Linacre professor of comparative anatomy at Oxford. From 1898–1907 he was director of the natural history department of the British Museum. In 1884 was prominent in founding the Marine Biological Association, now located at Plymouth, and in 1869 became chief editor of the *Quarterly Journal of Microscopical Science*. Lankester's works include the following: 'A Monograph of the Fossil Fishes of the Old Red Sandstone' (Part I, 1870); 'Comparative Longevity in Man and the Lower Animals' (1870); 'Developmental History of the Mollusca' (1875); 'Studies in Apus, Limulus, and Scorpio' (1881); 'On Food' (1882); 'The Advancement of Science' (1890); 'Extinct Animals' (1905); 'The Kingdom of Man' (1907); 'From an Easy Chair' (1908); 'Science from an Easy Chair' (1910–12); 'Diversions of a Naturalist' (1915).

LANMAN, Charles, American author: b. Monroe, Mich., 14 June 1819; d. Washington, D. C., 4 March 1895. He was educated at the Academy of Norwich, Conn., and went to New York, where he was in business from 1835 to 1845. He then returned to Monroe as editor of the *Gazette*. He afterward joined the staff of the *National Intelligencer* at Washington, D. C. He was private secretary of Daniel Webster in 1850 and secretary to the Japanese legation in Washington in 1871–82. He was at various times librarian of the War Department, librarian of copyrights, of the Interior Department and of the House of Representatives. He prepared the first Congressional biographical directory. He was among the first to explore the mountains in North Carolina. He painted many landscapes and made many sketching trips. He published in all about 32 volumes, including 'A Tour to the River Saguenay' (1848); 'Private Life of Daniel Webster' (1852); 'Dictionary of Congress' (1858); 'The Japanese in America' (1872); 'Leading Men of Japan' (1883); 'Biographical Annals of the Civil Government of the United States' (1876); 'Haphazard Personalities' (1886), etc.

LANMAN, Charles Rockwell, American Orientalist: b. Norwich, Conn., 8 July 1850. He was graduated at Yale in 1871; studied Greek and Sanskrit there and from 1873 to 1876 pursued studies in Orientalism at Berlin, Tübingen and Leipzig, returning in the latter year to accept a fellowship at Johns Hopkins University. Since 1880 he has been professor of Sanskrit at Harvard. He has lectured at many institutions on Oriental subjects; has traveled in India, and from 1879 to 1884 was secretary of the American Philological Association, edited its 'Transactions' (Vols. X–XIV), and in 1890 became its president. He was corresponding secretary of the American Oriental Society from 1884 to 1894 and in 1896, and served it as vice-president from 1897 to 1907, when he became its president. His published works include 'Noun-Inflection in the Veda' (1880); a 'Sanskrit Reader, with Vocabulary and Notes' (1884–88); 'The Beginnings of Hindu Pantheism' (1890); 'Rāja-Çekhara's Karpūra-mañjarī,' a translation of a Hindu drama of 900 A.D. (1900); and numerous contributions to Oriental and other journals. He projected the 'Harvard Oriental Series' (1891), to which he has made several contributions. He received the degree of LL.D. from Yale in 1902, and from Aberdeen University in 1906. In 1909 appeared his "Pāli Book-Titles and their Brief Designations," in 'Proceedings' of the American Academy of Arts and Sciences (Vol. XLIV, pp. 661–707, Boston).

LANNER, Joseph Franz Karl, Austrian musical composer: b. Vienna, 12 April 1801; d. there, 14 April 1843. He early showed an aptitude for music, playing the violin and composing music before he had any instruction. He established a quartet with the elder Strauss as viola, which proved the nucleus of a great orchestra. Lanner's genius ran to dance music and he developed the modern waltz from the old Viennese national dance *ländler*. He composed 208 marches and dances, and is generally acknowledged the father of modern dance music.

LANNER, the name of a small "noble" falcon formerly in high repute among European falconers of mediæval times, the identity of which, however, is not quite clear. It was probably the handsome reddish-gray *Falco feldeggi* of the Mediterranean region, still highly valued among Bedouin falconers for its docility and graces. The name is extended to other African and Asiatic hawks of similar appearance and qualities.

LANNES, län', **Jean,** Duke of Montebello, marshal of France: b. Lectoure, 11 April 1769; d. Vienna, 31 May 1809. He had a scanty education but his physical prowess caused him to be made sergeant in the battalion of volunteers which he joined in 1792 for service in the war with Spain. He had attained rank as colonel when in 1795 army reforms caused his loss of rank. He re-entered the army as a volunteer and went with Napoleon to Italy, and in 1797 rose to the rank of brigadier-general. He had by this time demonstrated to Napoleon his extraordinary ability for hard advanced guard fighting against any odds and

the great Corsican thereafter used him repeatedly to prepare the way for his own crushing attacks. He commanded a brigade in the Egyptian campaign; he accompanied Napoleon to France and distinguished himself at the 18th Brumaire. He was again in command of the advance guard in crossing the Alps in 1800, and at the battle of Montebello so aided Napoleon that he was created a duke, taking his title from the name of the battle. At Marengo he successfully conducted the hardest fighting. He was Ambassador to Portugal in 1801 and in 1804 he became a marshal of France. At Austerlitz he commanded the advanced guard, and in the campaigns of 1806–07 he rendered signal services. His method at Saalfeld is still studied as a model in the French Staff College. He won further laurels at Jena and at Friedland, then went with Napoleon to Spain as commander-in-chief of a separate army with which he won the battle of Tudela, 22 Nov. 1808. He then engaged in the siege of Saragossa, of which he took possession 21 Feb. 1809. Later in 1809 he was again engaged in an Austrian campaign, leading the army across the Danube. Forced to retreat in the battle of Aspern-Essling, 22 May 1809, he exposed himself recklessly, as was his wont, and was wounded, dying at Vienna, 31 May. Napoleon entertained for him a deep affection and was bitterly grieved at his loss. He was one of the ablest of the marshals of France, possessing signal ability for high command, and remarkable daring and strength as a leader. Consult Perin, R., 'Vie Militaire de Jean Lannes' (Paris 1809); Thoumas, 'Le Maréchal Lannes' (1891).

LANOE, Falconer. See HAWKER, MARY ELIZABETH.

LANOLIN, a fatty substance obtained from the grease of sheep's wool, and consisting chiefly of cholesterin. The wool-grease is saponified by means of caustic soda, and the resulting emulsion is diluted with water. The lanolin then separates in fine particles, which, by the aid of a centrifugal separator, may be obtained in a creamy mass. The lanolin of commerce contains about 30 per cent of water. Lanolin is very generally used as a basis in the preparation of salves and ointments, since it does not grow rancid, and is itself antiseptic to a certain extent. It absorbs water and penetrates the tissues of the body much more freely than lard or vaseline.

LANSDALE, lănz'dāl, Pa., borough of Montgomery County, 22 miles north of Philadelphia, on the Philadelphia and Reading and the Stony Creek railroads. The principal industries include the manufacturing of agricultural machines, silks, shirts, heating apparatus and iron and brass products. Pop. 3,551.

LANSDOWNE, George Granville (or GRENVILLE), LORD, English poet and dramatist: b. 1667; d. London, 30 Jan. 1735. He was educated in France and at Trinity College, Cambridge. He came of a family devoted to the cause of the Stuarts and at the age of 12 recited to the Duchess of York some verses he had written in honor of her visit to Cambridge. During the reign of William III he lived quietly, devoting himself to dramatic writing and the society of the great poets of his day: Pope, Dryden, Allison and Wycherley. He entered public life upon the accession of Queen Anne in 1702, being elected to Parliament, and in 1710 he became Secretary of War. In 1711 he was created a peer and in 1712 he was appointed Comptroller of the Household and a privy councillor. Upon the accession of George I he lost the favor of the court and was removed from office in 1714. He was later suspected of complicity in a plot to aid the Pretender and was confined in the Tower from 26 Sept. 1715 until 8 Feb. 1717. Upon his release from prison he went to Paris, where he lived for 10 years, later returning to England but refraining from further participation in public affairs. His poetry was of less value than his dramas, but he was a distinguished patron of the poets of his day. His dramatic works include 'The British Enchanters' (1706); 'Heroick Love' (1698); 'Once a Lover and Always a Lover' (1696). His collected works were published 'The Genuine Works in Prose and Verse of G. G. Lord Lansdowne' (2 vols., London 1732; another ed., 3 vols., 1736).

LANSDOWNE, Henry Charles Keith Fitzmaurice, 5th MARQUIS OF, British statesman: b. 14 Jan. 1845. He was educated at Eton and Oxford, and entered politics as a member of the Liberal party. He was one of the lords of the Treasury (1869–72); under-secretary for War (1872–74); under-secretary for India, 1880; and from 1883–88 governor-general of Canada. From 1888–93 he was viceroy of India; in 1895 joined Lord Salisbury's Cabinet as Secretary for War; and from 1900–05 was Secretary of State for Foreign Affairs. His tenure of office in the last-named post was marked by the further cementing of the alliance with Japan and the growth of the *entente* with France. The rejection by the House of Lords under his leadership of Mr. Lloyd-George's budget of 1909 was followed by the defeat of the Unionist party at a general election in the early part of 1910 and by the passing of the Parliament Act, which curtails the powers of rejection formerly possessed by the Upper House. In 1915 Lord Lansdowne joined the Asquith coalition government as a minister without portfolio.

LANSDOWNE, Pa., borough in Delaware county, five miles southwest of Philadelphia, on the Philadelphia, Baltimore and Washington Railway. It is chiefly important as a growing suburb of Philadelphia with the public improvements following a residential development. It has steel manufactures. Pop. 4,066.

LANSFORD, Pa., borough in Carbon County, on the Lehigh and New England Railway, 40 miles north of Reading. It is the centre of the anthracite coal fields, has extensive coal mining interests and manufactories of shirts, knit goods and garage supplies. In the neighborhood is situated an immense electric-power plant. It was settled in 1845 and was incorporated in 1876. The government is administered by a burgess elected every four years and a borough council which controls the local administrative offices. Pop. about 10,000.

LANSING, John, American jurist: b. Albany, N. Y., 30 Jan. 1754; d. 12 Dec. 1829. He studied law in Albany and New York; was engaged in practice at the beginning of the Revolution, during a period of which he served as

military secretary to General Schuyler. In 1784 he was elected to Congress, and while a member of that body was elected to the lower house of the New York legislature, where he was chosen speaker in 1786, in which year he also became mayor of Albany. For a short time he represented New York in the Constitutional Convention (1787), which he left because he held that he had been sent to participate in an amendment of the Articles of Confederation and not in the forming of a new constitution. In 1788, at the New York convention, his opposition to the ratification of the Constitution was stoutly maintained. He served on the New York-Vermont boundary commission; in 1790 was appointed a judge of the New York Supreme Court and became chief justice in 1798. From 1801 to 1814 he was chancellor of the State. He declined the Anti-Federalist nomination for governor of New York in 1804. He disappeared mysteriously in New York City on 12 Dec. 1829, after having quitted his hotel to post a letter on a wharf nearby.

LANSING, Robert, American statesman: b. Watertown, N. Y., 1864. After graduating from Amherst College he was admitted to the New York bar and began to practise law in his native town. On various important occasions he was engaged by the United States government on international questions, among them the Bering Sea Fur-Seal Arbitration (Paris 1892–93), in which he served as counsel and technical delegate; the Bering Sea Claims Commission (1896–97), Alaskan Boundary Tribunal (1903), North Atlantic Coast Fisheries Arbitration (1909–10) and the American and British Claims Arbitration (1912–14). Mr. Lansing was appointed counsellor for the Department of State in March 1914. On the unexpected resignation of Mr. William Jennings Bryan (q.v.) from the office of Secretary of State on 8 June 1915, President Wilson on the following day authorized Mr. Lansing to perform the duties of that office "for a period not to exceed thirty days, until a Secretary shall have been appointed and have qualified." The subsequent definite appointment of Mr. Lansing as Secretary of State proved a fortunate choice. In the delicate negotiations with foreign powers which Mr. Lansing conducted during 1915, 1916 and 1917, he displayed a statesmanlike breadth of view and a judicial grasp of essential points. The unrestricted submarine policy of the German government, involving diplomatic duels with ambassadors and Foreign Offices, and the intricate problems arising under international law from the British and French attitude with regard to the rights of search and blockade, in addition to many other thorny questions concerning the difficulties of neutrality, were alike handled by Mr. Lansing with diplomatic skill and tact. Among his other interests Mr. Lansing is associate editor of *The American Journal of International Law* and part author of 'The Government: Its Origin, Growth and Form in the United States' (New York 1902).

LANSING, Mich., city, capital of the State and county-seat of Ingham County, at the junction of the Grand and Cedar rivers, and on the Chicago and Grand Trunk, the Lake Shore and Michigan Southern and several other railroads, 85 miles northwest of Detroit. It occupies an elevated site on a plateau rising from the water level and is well laid out. Its streets are well shaded. There is an abundance of water power derived from both rivers, the Grand River having here a fall of 18 feet. It is a trade centre and is engaged in the manufacture of agricultural implements, flour, stoves, machinery, beet sugar, canned goods, automobiles, gasoline engines, carriages, wagons, trunks, wheelbarrows, building materials, malleable castings, furniture, fixtures, electric supplies, cut glass, candy, ice cream, cigars, automobile accessories, artificial stone and knit goods. There are over 200 manufacturing concerns, employing about 11,000 persons, and an annual product valued at about $30,000,000. It contains the State Capitol, built at a cost of $1,500,000; State Hospital; State Library, containing 105,000 volumes; United States government buildings; State School for the Blind; and the State Industrial School; State Agricultural College, with a farm of 675 acres; and has electric-light and street-railroad plants; water power from the river, which is spanned by several bridges; national and State banks; about 20 churches; daily, weekly and monthly periodicals; and an assessed property valuation of over $6,000,000. Under a charter of 1897 the city is governed by a mayor and council elected every two years. The waterworks and electric-light plants are owned and operated by the municipality. The city was settled in 1837, laid out for the State capital in 1847, when a single family occupied the site, and incorporated in 1869. Pop. 37,512.

LANSING MAN, a term applied to a collection of human bones, found near Lansing, Kan., 20 feet below the surface of the earth, under a stratum of carboniferous limestone. The skull which was well preserved measured: Maximum length, 188 mm.; breadth, 138 mm.; cranial index, 73.4. From the date of this discovery in 1902, men of science have been divided in their opinion as to the antiquity of the remains. It is now generally agreed that the skull does not represent an ancient type of man. The skull is preserved in the United States National Museum. Consult Aleš Hrdlička, "Skeleton Remains Suggesting or Attributed to Early Man in North America," in Bulletin No. 33, Bureau of American Ethnology (Washington 1907).

LANSINGBURG, N. Y., village in Rensselaer County, north of the city of Troy, of which it became a part, 1 Jan. 1901. It was a manufacturing town with a population of 12,595 when absorbed.

LANSON, Gustav, French literary critic: b. Orleans, 5 Aug. 1857. He was educated at the Lycée d'Orléans, the Lycée Charlemagne and the École Normal Supérieure, receiving the degree of doctor of letters. He engaged in the teaching of rhetoric and later became professor of French literature at the University of Paris, and at one time he was engaged in teaching in the United States where his methods have been adopted by several universities. He is a member and officer of several French literary societies and an officer of the Grand Legion of Honor. His works include 'Nivelle de la chaussée et la comédie larmoyante' (1887); 'Histoire nationale de la littérature française' (1894; 11th ed., 1909);

'Manuel bibliographique de la littérature française, 1500–1900' (4 vols., 1910–12), etc. He edited 'Les lettres philosophiques of Voltaire' (1908).

LANTERN, formerly **LANTHORN** (1) an open-work carrier or structure with transparent sides, used for carrying a lamp or candle, as a portable light, or for protecting it from the wind. Lanterns were used by the ancients in augury. They were also carried before troops on the march by night, being then borne on the top of pikes, and so constructed as to throw the light backward. Dark lanterns are provided with only a single opening, which can be closed up when the light is required to be hidden, or opened when there is occasion for its assistance to discover some object. See LAMP.

(2) *In architecture,* a small structure on the top of a dome, or in other similar situations, for the purpose of admitting light, promoting ventilation, or for ornament, of which that on the top of the capitol at Washington may be referred to as an example. In Gothic architecture the term is sometimes applied to *louvres* on the roofs of halls, etc., but it usually signifies a tower which has the whole height, or a considerable portion of the interior, open to view from the ground, and is lighted by an upper tier of windows. Notable examples are the Cimborio of Burgos Cathedral, the celebrated example of Coutances Cathedral, Normandy, and the equally famous octagon of Ely Cathedral.

(3) The elaborate lighting fixture, with its prisms, in a lighthouse (q.v.).

LANTERN OF DEMOSTHENES. See LYSICRATES, MONUMENT OF.

LANTERN-FISH, a general term for the luminous fishes of the depths of the sea, most of which belong to a single group (*Iniomi*). See DEEP SEA EXPLORATION; DEEP SEA LIFE; FISH; ICHTHYOLOGY.

LANTERN-FLIES, homopterous bugs with membranous forewings concealing the folded hinder wings when the insects are at rest, and the head greatly prolonged and said to be light-giving in some tropical species. They feed upon plants and deposit their eggs in slits cut in the bark. The best-known species is the candle-fly (*Fulgora laternaria*) of tropical America, but the luminosity alleged of it is an old story not recently verified. Many other popular beliefs are attached to the insect. It is said in Brazil, for instance, to be so poisonous that anything against which it strikes its long beak will fall dead. Several small and non-luminous species of this family occur in the United States. Consult Brunner, 'Am. Naturalist,' (Vol. XXIII, p. 835, 1885).

LANTERN SLIDES, Method of Making. Lantern slides are so universally used in educational work and are so easily made that teachers should know the process. Besides, lanterns, which can be attached to any electric light socket, have become so cheap and so efficient that illustrated descriptions of travels and outings may be enjoyed in the home. As far as the method of making them is concerned, there are three classes of lantern slides: (1) lantern slides by contact, (2) by reducing or enlarging, and (3) by copying illustrations or photographs.

1. Lantern Slides by Contact.— Put the lantern slide plate on the negative in a printing frame and print just as if the plate were a piece of printing-out paper. The time of exposure will be rather short. With a gas mantle lamp or an ordinary electric-light bulb, try two seconds at a distance of three feet. If the negative is weak, increase the distance, underexpose and develop thoroughly; if the negative is dense, lengthen the exposure. If the negative is uneven, increase the distance so that 8 or 10 seconds, or even longer will be required for the exposure. This will give an opportunity for shading the weaker parts, just as in printing on paper. With most kodak films and with other negatives up to 3¼×4¼ inches, this is the best method. Even with larger negatives, a desirable portion may be covered by the plate and a print made of that particular feature.

2. Reducing and Enlarging.— If a lantern slide is to be made from a negative either smaller or larger than the lantern slide plate, a camera is necessary. Place the negative in a perfectly vertical position so that a good light, but not direct sunlight, may shine through it, as in making an ordinary picture. Remember that the lantern slide plate is very slow, so that the exposure will be 10 to 15 times that required for "instantaneous" plates or for kodak films. Lantern slides made by reduction from larger negatives are likely to be the best; enlargements from negatives smaller than the lantern slide are not so satisfactory.

3. Copying Illustrations or Photographs. In making lantern slides from photographs, maps or pictures in books, it is necessary to make a negative and then make a lantern slide from the negative. Preferably, this negative should be of the same size as the lantern slide plate. The lantern slide may then be printed by contact. Lantern slide plates may be used in making such negatives. If an average 5×7 photograph is to be copied in good diffuse daylight, with an F 16 stop, and a lantern slide plate, try an exposure of 15 seconds. In copying maps and line drawings, where dead blacks and pure whites are desired, expose fully and overdevelop. Formulæ for develepors are furnished with every box of plates. Consult Chamberlain, Charles J., 'Methods in Plant Histology' (1901); 'The Photo-miniature,' (*Lantern Slides,* Vol. I, No. 9, 1899).

CHARLES J. CHAMBERLAIN.

LANTERNS, Feast of, a religious ceremony held in China on the 15th day of the first month of the year. It derives its name from the vast number of lanterns which are hung out of the houses and in the streets. The lanterns used are often of great value, being richly ornamented with gilding, painting, japanning and sculpture, and some of them are of great size, reaching nearly 30 feet in diameter, and are so constructed as to resemble halls or chambers.

LANTHANUM, a rare metallic element resembling cerium in its general properties, discovered by Mosander, in 1839, in the Swedish mineral cerite. It has the chemical symbol La, and an atomic weight (for O = 16) of 138. Its melting point is between that of antimony (840° F.) and silver (1740° F.). It has

a specific gravity of 6.16, and a specific heat of 0.0448. It is a white metal, moderately ductile and malleable. It oxidizes rapidly upon exposure to the air, and decomposes water slowly when cold, and rapidly when hot. It dissolves readily in acids, with the formation of corresponding salts, which are mostly colorless, with an astringent taste. The metal is prepared by the reduction of its chloride by metallic potassium, and the subsequent removal of the potassium chloride that is formed, by washing with alcohol. Neither lanthanum nor its salts are of any industrial importance. The name is from a Greek word meaning "concealed," in allusion to the fact that lanthana, the oxide, was for a time confused with the oxides of other rare metals belonging to the cerium group. Lanthanum occurs, as a silicate, in the minerals cerite, gadolinite, orthite and allanite; as a carbonate in lanthanite occurring in Lehigh County, Pa., and Essex County, N. Y.

LANZA, län'tsä, **Gaetano,** American mathematician and engineer: b. Boston, 26 Sept. 1848. He was educated at the University of Virginia, and for two years was an instructor there; was an instructor and assistant professor at the Massachusetts Institute of Technology (1872–75); professor of theoretical and applied mechanics (1875–1911), in charge of the department of mechanical engineering (1883–1911), and since 1911 professor emeritus. He has served at various times as consulting engineer and in 1906–11 was president of the Mathematical and Physical Club. He is a Fellow of the American Academy of Arts and Sciences, a member of the British Association for the Advancement of Science, and of other scientific bodies here and in Europe. He has published 'Applied Mechanics' (1885; 9th ed., 1905), and 'Dynamics of Machinery' (1911), and his writings include many papers presented to scientific societies.

LANZAROTE, län-thä-rō'tä, one of the Canary Isles, the most easterly of the group, about 90 miles from the African coast; area, 235 square miles; greatest length, 31 miles; breadth, 5 to 10 miles. Its coast is in general very bold, and presents ranges of basaltic cliffs rising in some parts to 1,500 feet; its interior is rough in surface, and contains several mountains, the loftiest of which has a height of 2,000 feet. The only port of any consequence is Arrecife. Pop. 19,261.

LANZI, län'tsē, **Luigi,** Italian antiquary and art critic: b. Monte dell' Olmo, near Macerata, 1732; d. Florence, 30 March 1810. He was educated for the priesthood, entering the order of the Jesuits. He became keeper of the galleries of Florence in 1773 and through study and research became an authority on Italian painting and Etruscan language and antiquities. He was buried beside Michelangelo in the church of Santa Croce at Florence. His writings include 'Storia Pittorica della Italia' (1792, 1796); 'Saggio de lingua Etrusca' (1789); 'Saggio delle lingua Italia antiche' (1806); 'Dei vasi antichi dipinti volgarmente chiamati Etruschi' (1806), etc. He also wrote verse, edited and annotated Hesiod, 'Works and Days,' and he wrote a number of treatises on spiritual subjects.

LAO-TSE, lä'ä-tsä, or **LAO-TSEU,** Chinese philosopher: b. Kiuh-jin about 604 B.C. The date of his death is unknown, but some early writers think he attained the age of 160. His primal name was Li Uhr, but as he became distinguished he was called Lao-tse, or venerable philosopher. He was the founder or reformer of one of the most ancient and important religious sects of China, known as the Tao or sect of reason. He was a historiographer and librarian to a king of the Chow dynasty; traveled to the borders of India, where he may have become acquainted with Buddism; met Confucius and reproached him for his pride, vanity and ostentation; was persuaded to record his doctrines in a book, which he did in the 'Tao-ti-king' or 'The Path to Virtue'; and on completing this task is reputed to have disappeared into the wilderness, and there ascended to heaven. According to him silence and the void produced the Tao, the source of all action and being. Man is composed of two principles, the one material and perishable, the other spiritual and imperishable, from which he emanated, and to which he will return on the subjugation of all the material passions and the pleasures of the senses. Lao-tse's moral code is pure, inculcating charity, benevolence, virtue and the free-will, moral agency and responsibility of man. Since the 2d century of our era the sect has continued to extend over China, Japan, Cochin-China, Tonquin and the Indo-Chinese nations. See TAOISM.

LAOAG, lä-wäg', Philippines, capital of the province of Ilocos Norte, Luzon, on the Grand de Laoag River, four miles from its mouth. It is picturesquely situated in a fertile plain and is well built; it is open to the coastwise trade and is the centre of shipment for the agricultural products of the region. Rice, indigo, tobacco and sugar are the principal products. The name signifies "clearness" from the fact that the sky and atmosphere are almost continuously clear. Pop. about 43,000.

LAOCOÖN, lā-ŏk'ō-ŏn, a priest of Apollo at Troy. As he was sacrificing a bull to Poseidon on the shore, two serpents swimming from the island of Tenedos advanced to the altar. The people fled, but Laocoon and his sons fell victims to the monsters. The sons were first attacked, and then the father. Winding themselves round him, the serpents raised their heads high above him, while in his agony he vainly endeavored to extricate himself from their folds. They then retired to the temple of Pallas Athene, where they took shelter under her shield. The people saw in this omen Laocoon's punishment for his impiety in piercing with his spear the wooden horse consecrated to Athene. The story has frequently furnished a subject to the poets, but it is chiefly interesting to us as having given occasion to a fine work of sculpture — the Laocoon group, now in the Vatican. It was discovered in 1506 on the site of the baths of Titus. Pope Julius II bought it and placed it in the Vatican. Its preservation was perfect, except that the right arm of Laocoon was wanting: this was restored by a pupil of Michelangelo. This group is of the dramatic Rhodian school, and by no means belongs to the best style of Greek sculpture. Yet it has been much treated of in literature, especially by Goethe, Heine, Lessing, Winckelmann and Herder. It represents three persons in agony, but in different attitudes of struggle

or fear, according to their ages. Pliny declares it was made of one stone by the sculptors Agesander, Polydorus and Athenodorus, all natives of Rhodes, and the two latter probably sons of the former.

Lessing makes it probable that those three artists lived under the first emperors. It may be fairly doubted whether the statue mentioned by Pliny is the same as that we now have; acute observers have found that the group does not consist of one block, though the junctions are carefully concealed. To this it may be answered that they were not perhaps perceptible in the time of Pliny. Several copies have been made; one in bronze, from a model by Giacopo Tati or Sansovino, which was carried to France. Bacio Bandinelli made a copy which is in the Medici Gallery at Florence.

LAODAMIA. Wordsworth's 'Laodamia,' published in 1815, is a narrative poem in stanzas dealing with the classical story of Protesilaus, a Greek hero who sacrificed himself in fulfilment of the oracle which declared that victory should be the lot of that party from which should fall the first victim in the Trojan War. According to the legend, as narrated by Wordsworth, Laodamia, the wife of Protesilaus, prays to the gods that her husband may return to her from Hades. He does so and relates the story of his death at the hands of Hector, rebuking the excessive passion of his wife, who cannot bring herself to consent to his return to the shades of death. Summoned by Hermes the spectre departs, leaving Laodamia a lifeless corpse upon the palace floor. The poem closes with a description of the trees which grew from the tomb of each and withered at the top when they had attained such a height that they commanded a view of the walls of Troy. The underlying idea of the poem is the weakness of the soul exemplified in Laodamia, whose uncontrolled love makes her incapable of lifting her heart to a "higher object" and accepting her husband's sacrifice and fate. Both the motive of the piece and its classical amosphere reflect the change in point of view which Wordsworth experienced in his maturer years. (See ODE TO DUTY). Its beauty of style and calm nobility of tone make it one of Wordworth's unquestionable masterpieces. The poem bears traces of the influence of Virgil, whom the poet was rereading at the time. In an earlier version Laodamia is more pitied than condemned. Later the ethics of the poem seemed to require her punishment. The present ending, adopted in 1845, is a kind of compromise. Consult notes in Dowden's 'Poems by Wordsworth' (Athenæum Press Series).

JAMES H. HANFORD.

LAODICEA, lā-ŏd-ĭ-sē'ą, the ancient name of eight places in Asia Minor including (1) Laodicea, now called by the Turks *Eski Hissar* (Old Castle), an ancient ruined city, once the capital of Greater Phrygia, 120 miles east of Smyrna, the site of one of the seven primitive Christian churches of Asia. Nothing but very extensive ruins of inferior architectural merit remain to point out the locality of this interesting city. (2) Now Ladik, a city of Lyconia, north of Iconium. (3) An ancient city of Syria, founded by Seleucus Nicator, which stood to the northeast of Baalbec, in a plain watered by the Marsyas.

LAODICEA, Council or Synod of, council held at Laodicea ad Lyceum in Phrygia in the 4th century. The exact time of the council is disputed, Hefele placing it between 343 and 381, while Baronius maintains 314 as the correct date, and other years as late as 399 are considered by different authorities. The council was composed of 32 bishops from the provinces of Asia and the results of its rulings are produced in 60 canons which were pronounced as binding upon the Christian creeds throughout the world by the Council of Chalcedon in 451. The canons are disciplinary in the main and make a privileged class of the clergy, but regulate strictly ritual, precedents, heresy, baptism, fasts, angel-worship and other matters of form and faith. From the list of canonical books notable omissions are those of the Apocrypha and the Revelation. The canons are published in Hardouin, 'Conciliorum Collectivio' (Vol. I, 1875).

LAOKOON. To the scholarly world outside of Germany 'Laokoon' (1766) is probably better known than any other of Lessing's works — an interesting poem by Matthew Arnold testifies to its fame. It represents the culmination of a wave of critical inquiry which swept over the whole of western Europe; with regard to contemporary poetic practice it was a polemic of irresistible timeliness; and in every respect it is a characteristic work of its clear-headed and sure-handed author.

'Laokoon' has to do with the boundaries of painting and poetry. It delimits the respective fields of sister arts which have indeed much in common, but properly possess each a special sphere. Mutual accommodation may be expected of the sisters, and is provided for; nevertheless, either can only at her peril invade the peculiar domain of the other. So much had been recognized in Europe since the time of the Renaissance. Italians, Frenchmen and Englishmen — all of the more important of them known to Lessing — had for generations meditated and written on the problems that he treated, and some had endeavored to distinguish what belonged to one sister from what belonged to the other. But the prevailing tendency had been to assimilate, to evaluate and to compare, whereas he contrasted. Before Lessing two texts from antiquity had been thought to warrant emphasis upon likeness: Horace's phrase in the 'Art of Poetry' *Ut pictura poesis* ("as a picture is, so is poetry") and the saying attributed to Simonides of Ceos, "A picture is mute poetry; poetry is a speaking picture." There were recognized, however, the facts that speaking takes time, and sight may be momentary; that a mute object is an object in space, whereas words — the medium of poetry — neither are objects nor have any existence in space: in short, that both the matter and the manner of poetry and painting are, as Plutarch had declared, different one from the other.

Differences in manner or medium of artistic creation are manifest: forms and colors are in no sense like words or language. That the matter suitable to the two arts is also different was demonstrated by Diderot, when he invited attention to the treatment of one and the same subject in the two media, and showed how absurd would be the appearance on canvas of a man submerged up to his head, in spite

of the effective handling of such a scene in the poetry of Virgil.

This hint, and a similar one from Winckelmann and Moses Mendelssohn with reference to the statue of Laocoön, and Virgil's narrative in the second book of the 'Æneid,' gave Lessing the starting point for his discussion; —for his discussion, not for the development of his ideas; these he had derived from consideration of the practice of Homer, a practice vividly brought to Lessing's attention by a passage in Burke's essay 'On the Sublime and Beautiful.' Upon the basis of first principles discovered in Homer, Lessing built up his theory of the fundamental difference between poetry and painting. But the first 15 chapters of 'Laokoon' pursue an inductive method to which he gave a casual air by taking up the views of three of his most distinguished predecessors: Winckelmann, Joseph Spence and Count Caylus. Then, in chapter 16, he formulated his results in dogmatic, deductive fashion, essentially as follows: The symbols, or means of expression, in painting are lines and colors; the symbols, or means of expression, in poetry are articulate words. Lines and colors are properties of bodies, the parts of which coexist in space; articulate words have no existence in space, but succeed one another in time. If, therefore, as is evident, there should be a suitable relation between the subject of artistic treatment and the means employed, the proper subject for painting is something, the constituent parts of which coexist in space, i.e., *bodies;* and the proper subject for poetry is something, the constituent parts of which succeed one another in time, i.e., movements or, in general, *actions*. Painting can represent action only suggestively, by means of bodies; poetry can represent bodies only suggestively, by means of action. Painting can represent only a single moment, but can suggest other moments; poetry can present a body to view, but will give it the aspect which it bears at a definite moment, the moment of mention. The painter will choose a pregnant moment, i.e., one which gives the imagination free play with cause and effect; and the poet will choose a significant aspect, i.e., one which gives the imagination a vivid picture of present reality. But the painter will suggest, he cannot tell, a story, and the poet will present, he cannot exhaustively describe, a body — instead, he will translate a work into the terms of an operation, and will transform beauty into grace. Grace is beauty in motion. Space is the realm of the painter; the realm of the poet is time.

Lessing's treatise was a protest against two abuses that ran riot in his day: excessive allegorizing in painting, excessive detailed description in poetry. Painting subordinated beauty to "poetic" substance and ran the risk of unintelligibility; "pictorial" poetry dissipated its energy in the vain endeavor to assemble the parts of extensive objects which defied imaginative unification. Lessing was more concerned with poetry than with painting; he was a poor visualizer, but quick to respond to sensory-motor appeal. Further, he cared more for ideas than for things, more for action than for being. His rationalistic mind dealt chiefly with the objective aspect of arts which must, in the last analysis, justify their methods by their subjective effect upon the whole man, the sensuous even before the rational. But he made a theoretical distinction which is unassailable, however much it may be subject to modification when applied to specific cases. Lessing himself was ready and willing to relax the rigidity of his demarcations. The 'Laokoon' as we have it is but the first part of a treatise planned to comprehend music and dancing as well as painting and poetry. We need not regret that it remained a fragment. What the treatise gained in completeness it might have lost in incisiveness. The first part, that we have, is a masterpiece of composition, a work of art, in which discussion of abstract principles is made marvelously concrete and stimulating. Translated by Ellen Frothingham (Boston 1874), and by Sir Robert Phillimore (London 1874). Edited by W. G. Howard (New York 1910). Cf. Irving Babbitt, 'The New Laokoon' (Boston 1910).

WILLIAM G. HOWARD,
Assistant Professor of German, Harvard University.

LAOMEDON, Greek mythological character, son of Ilus, king of Troy and father of Priam (Podarces). By command of Zeus Laomedon was served by Apollo and Poseidon, Apollo tending his flocks and Poseidon building the walls of Troy which Laomedon founded. Laomedon refusing the compensation agreed upon the country was visited by a pestilence sent by Apollo and a sea monster sent by Poseidon. The oracle declared that relief could be obtained only by the sacrifice to the sea monster of one of Laomedon's daughters. Lots were cast and Hesione was chosen and chained to a rock to await the sea monster's coming. Here Hercules found her and promised to free her in exchange for the magic horses given to Tros, the father of Ganymede, to comfort him after the loss of his son. Laomedon again broke his word and Hercules returned, destroyed Troy, killed Laomedon and all his sons except Priam who had opposed his father's methods. Hercules carried away Hesione and placed Priam upon the throne. It was said that so long as the grave of Laomedon remained inviolate by the Scæan gate the walls of Troy would remain impregnable.

LAON, läṅ, France, capital city of the department of Aisne, 87 miles northeast of Paris. It has been from earliest times a fortified city, owing to its situation upon commanding ground. It was the ancient Ladunum and was fortified by the Romans in the 5th century. The invasions of the Franks, Vandals, Huns and others were checked here in early times; in the Hundred Years War Laon changed hands several times, being held successively by the Burgundians, English and French. Napoleon here was defeated by Blücher in 1814, and in the Franco-Prussian War Laon fell into the hands of the Germans. In the European War Laon again fell before the Germans in the autumn of 1914 and remained within the famous "Von Hindenburg line" as it stood in the summer of 1918. The cathedral of Laon was built in the 12th and 13th centuries and is considered one of the most important Gothic structures in France. There is an old episcopal palace, now in use as a courthouse; the 13th century

gates of Ardon, Chenizelles and Soissons; the ancient abbey of Saint Vincent and the church of Saint Martin, built in the 12th century. Laon was the seat of a bishopric until the Revolution. Its modern fortifications consist of an inner line of defense works and two groups of forts to the southeast and southwest. It has sugar and metal-manufacturing industries and is famous for its artichokes, asparagus and fruits. The town possesses an excellent museum, a lycée for boys, a girls' college and agricultural and normal schools. Pop. 15,228.

LAOS, lä'ŏz, or **LAOTIANS,** division of the Thai or Shan race of Indo-China, occupying the territory in northern India from Tongking to Cambodia in the Malay Peninsula. The people prefer to be called Thai rather than Lao, which is a political name, indicating the Thai peoples governed by Siam. Shan also is a political name, probably from the Chinese, and means the Thai peoples under Burmese rule. They are at present chiefly under French and Siamese rule although a species of independence is accorded a few tribes. The Laos came from the mountain districts of Yunnan. Szechuan and Kueichow, driving the wild tribes of the Kwa peoples away. Their civilization was of a comfortable order, with small states having few and easy laws and low taxes, and embodied for the greater part the adoption of Buddhism. The Laos are of a friendly, pleasant disposition, too easy-going to compete successfully in commerce; their chief occupations are along agricultural lines in connection with rice, silk and herds. The cutting of teak timber is done mostly by the wilder tribes in the mountains. There are two distinct divisions of the Laos, the Lao Pong Dam, or North Laos, and the Lao Pong Kao, or Eastern Laos. They possess a written language, the Lao Pong Dam deriving theirs from the Burmese, while the Lao Pong Kao language is similar to the Siamese. The physical characteristics of the race are low stature, yellow complexion, high cheek bones, small, flat nose, oblique eyes, black hair and scanty beard. While polygamy is practised it is rare and the women of the race enjoy considerable freedom and are kindly treated. They have a distinct taste for music, their instrument being the "khen," a mouth organ of rather sweet tone; and they have a considerable development of folklore. From 1828 the Laos were governed by Siam, the most powerful Laotian state, Vien-Tiane being destroyed at that time. The government was thereafter conducted in part by native hereditary princes and partly by mandarins sent from Bangkok. The government is now divided between France and Siam. As a whole the Laos are lazy but peace-loving; they are superstitious, crediting disease to evil spirits and believing in wer-wolves. Men, women and children are alike addicted to tobacco smoking. Consult Granier, M. J. F., 'Voyage d'exploration en Indo-Chine' (1873); Mouhout, A H., 'Travels in the Central Parts of Indo-China, Cambodia and Laos' (1864); Hallett, H. S., 'A Thousand Miles on the Elephant in the Shan States' (1890); Gosselin. C., 'Le Laos et le protectorat français' (1900); Reinach, L. de, 'Le Laos' (1902) and 'Notes sur le Laos' (1906).

LAOS, a territory in the French Indo-China Peninsula, surrounded by the British Shan states, Anam, Tongking and the Chinese province of Yuan-nan. Its boundaries and political status have been the subject of four international agreements, the last concluded in 1907, when the Luang-Prabang territory on the west side of the Mekong was partially restored to Siam. Its extent and the number of its inhabitants are unknown, but they have been estimated at one and a half million. The country is intersected by mountain ranges and traversed by the Mekong or Cambodia River, the alluvial valley of which produces abundant sugar, rice, tobacco, etc. Laos exports to the neighboring states a considerable quantity of ivory, gold, silver, precious stones, silk, etc. The inhabitants are reported to be connected with the Burmese in their racial, social and religious peculiarities. The capital is Ching-Mai.

LAOSAURUS, lā-ō-sâ'rŭs, a genus of unarmored, herbivorous dinosaurs (q.v.) of the suborder *Ornithopoda,* whose remains are found fossil in the Jurassic rocks of western North America.

LAPAROTOMY, surgical operation consisting of the opening of the abdomen by making an excision in the loin in order to reach the abdominal cavity or pelvic viscera.

LAPEER, lą-pēr', Mich., city and county-seat of Lapeer County, on the Michigan Central and the Grand Trunk railroads, 60 miles north of Detroit, 45 miles west of Port Huron and 41 miles south of Bay City. It was first settled in 1836 by A. N. Hart and was incorporated as a city in 1868. The municipal government is administered by a mayor and city council of eight members, elected every two years. It is located in a fertile agricultural region and is an important trading centre for poultry and farm produce. The waterworks are the property of and are operated by the municipality. The city has four banks, and its industries include numerous large factories, stone works, planing mills, flouring mills, stove works, a tannery, machine works and iron foundries. The Michigan Home for the Feeble-Minded is located here; also the Lapeer Business College, High School and various church buildings. Pop. 3,946.

LAPHAM, Increase Allen, American naturalist: b. Palmyra, Wayne County, N. Y., 7 March 1811; d. Oconomowoc, Wis., 14 Sept. 1875. From 1825 to 1832 he assisted in the survey of the Erie Canal, the Ohio Canal and the Welland and Miami canals. In 1833 he removed to Columbus, Ohio, as secretary of the State Board of Canal Commissioners, and also turned his attention to botany, meteorology and geology. He removed to Milwaukee in 1836 where he dealt in real estate and also made a thorough study of the Wisconsin climate, topography, geology, fauna and flora, its resources and its commerce. He was chief geologist of Wisconsin in 1873–75. He was a member of most of the scientific and historical associations of the United States. His publications, including maps, number more than 100 and represent an immense amount of research; the best known are 'Geographical and Topographical Description of Wisconsin'

(1844); 'Antiquities of Wisconsin' (1855); 'Geological Map of Wisconsin' (1855). The first-named work was the chief authority on the subject for many years and had much influence in directing emigration toward Wisconsin.

LAPIDARY WORK. The lapidary is the skilled cutter, polisher and engraver of precious and semi-precious stones. This work was known to the ancient Greeks and Romans, who excelled in it, as the "glyptic" art, which term is used to this day to express the work done on *intaglios* and *cameos*. In the case of precious stones intended for jewelry or adornment the ancients at first had to satisfy themselves with rounding off the edges and irregularities of the crude stone and then polishing their surface. These rounded or pebble forms are known as "en cabochon" and are still usual in our *carbuncles*. The method of facetting to bring about a greater brilliance from light reflections on the many-faced surface required too great an amount of grinding until better abrasives were discovered, and the hardest gemstones, as the ruby and diamond, had to wait till the great cutting power of diamond dust was learned. See GEMS.

The invention of lapidary work dates back far behind the days of civilization, in fact to the time when the mind of the savage found that hard stones would cut softer ones. And hence we have our earliest extant engraved stone work on steatite, serpentine, limestone, lapis, etc., all of which are easily cut with splinters of flint or other hard stones available to the savage. Many specimens of real art engraving on stone are extant from such early states of civilization, as those of Babylonia, Egypt, the Ægean Islands, etc. These early engravings were done in the production of seals; those of the Babylonians, early Egyptians and Assyrians assumed the form of a stone cylinder, the incised characters on which were impressed on soft clay by the simple process of rolling, the engraved devices appearing *in relief* on the clay. Later we find the Egyptians reduced the proportions of their stone seals to what we would now call *signet* size, soon to receive a bored hole threaded with leather, wire or other material so as to be hung portably on the person. Later again the religiously venerated scarab beetle was carved on the obverse side of the signet by the lapidary. Soon the loop was reduced and used for the circlet of a finger ring — the embryo of the finger ring was therefore a signet.

As to the lapidary's technique in early days we know a little but not much, though the amount of deductive conjecture written by experts would cover many pages. The close examination of the surfaces of extant ancient examples affords fair evidence that sharp splinters of stone or chisels of metal were the tools used. The point rendered by a splinter of corundum set in some kind of handle could furnish the work we find done on the earliest pieces; in fact there are proofs that just before Roman times this tool was in use. Besides incising, however, we come across work impossible by such method. Here the drill was used to obtain the depth of cutting, the frequent use of holes is evidenced under a magnifying glass, the lines showing the drill perforation deeper than the chipped-out depths done between to bring the connected holes into a line. This work was, no doubt, done with the very ancient bow-drill, the *bit* or drilling piece being pointed with a quartz or corundum end moistened with corundum powder and oil to create a cutting edge. Ancient specimens found on the island of Crete show us they used tubular drills, thus permitting, at a single process, the cutting of a ring or circle. It may be here stated that the Chinese, even the Maoris of New Zealand, still use the tube drill; the ancient Aztecs also used it. A great advance in lapidary work was brought about by the later discovery of the *disc* tool. By the 5th century B.C. the Greeks created marvelous stone engraving through the use of the revolving disc as an adjunct with the drill. The cutting power of a rapidly revolving disc edge is comparatively speedy and produces lines of mathematical accuracy and cleanness of incision. The potter's lathe dates back to very early civilization, with its motion produced by foot power on a large wheel or disc near the ground. Such a machine was, no doubt, used by the Greeks.

So far we have discussed only the production of incising devices in *negative* below the surface, the design being brought about in relief by impressing on soft surfaces (seals); such work is termed "intaglio." It was probably about the 5th century B.C. when the creation of positive engraving on stone, known as "Cameo" (see CAMEOS), was started. By this method a design *in relief* is brought about directly by cutting away the background and carving the subject in different depths as is done by the sculptor. The lapidaries producing intaglio work were known as *cavatores* or *signarii* by the Latins, and the workers in cameo were termed *cælatores* or *scalptores*. Recent discoveries in the production of metals for cutting tools and inventions in lathes and other machines for lapidary work have aided our artisans to quicker production, but their output will not compare in quality and perfection of art with the marvelous intaglios and cameos of the ancients, done with great patience and paucity of tools. Consult Pannier, L., 'Les Lapidaires français du Moyen Age' (Paris 1882); Claremont, L., 'The Gem Cutters' Craft' (London 1906); Natter, L., 'Traité de la Méthode antique de graver en Pierres fines, comparé avec la Methode moderne' (London 1754).

CLEMENT W. COUMBE.

LAPILLI. See PYROCLASTIC.

LAPIS-LAZULI, the sapphire of the ancients, is a highly-prized ornamental stone. It was long supposed to be a simple mineral, but now has been shown to be a variable mixture of lazurite, haüynite, diopside, amphibole, muscovite, calcite, pyrite and other minerals. The most important mineral in the stone is lazurite, which is itself a highly complex compound, essentially $Na_4(Na\ S_2\ Al)\ Al_2Si_3O_{12}$, but containing also in molecular combination varying amounts of haüynite and sodalite. Lazurite is usually massive, has a hardness of 5 to 5.5, a specific gravity of 2.45, and rich azure-blue color. Its most important localities are in Siberia, Persia, China and Chile.

LAPITHAE, a mythical race of Thessaly, whose struggles under the leadership of their king, Pirithoüs, against the Centaurs are a fre-

quent subject in art and literature. The final contest was due to the unsuccessful attempt of the Centaurs to carry off Hippodamia, the bride of Pirithoüs, at their marriage-feast.

LAPLACE, Pierre Simon, pē-ār se-môn lä-pläs, MARQUIS DE, French mathematician and astronomer: b. Beaumont-en-Auge (Calvados), 28 March 1749; d. Paris, 5 March 1827. He studied the higher mathematics at the academy of Beaumont; in 1767 went to Paris and there by the influence of D'Alembert became professor of mathematics in the Ecole Militaire. By his brilliant memoirs on the theory of probability he attracted wide notice and in recognition was elected *membre-adjoint* (1773) and titular member (1785) of the Academy of Sciences. He was appointed examiner in the royal artillery corps (1784) and professor of analysis at the Normal College (1794); and in 1816, for the elegance of his style in the 'Exposition du Système du Monde' (1796), was admitted to the Académie Française, of which in 1817 he became president. Appointed by Napoleon Minister of the Interior (1799), he was shortly dismissed, being, according to the emperor, "below mediocrity as a minister," and aiming to "conduct the government on the principles of the infinitesimal calculus." He was, however, given a seat in the Senate, became its vice-president and in 1803 chancellor. He also held the post of president of the Bureau of Longitudes and was a member of the commission for the establishment of the metric system. On the creation of the empire he was made a count; but he acquiesced in the downfall of Napoleon, and was the recipient of a marquisate at the hands of the monarchy in 1817.

Nichol called him the "titanic geometer," and he has been styled also "the Newton of France." Among the more important of his remarkable investigations are the discovery of the inequality in the movements of Jupiter and Saturn; his researches in probabilities (contained in the 'Théorie analytique des probabilités,' 1812, and the 'Essai philosophique sur les probabilités,' 1814); his improvements in the lunar theory, and his theory of the tides. His chief work is the great 'Mécanique céleste' (1799–1825), a compendious solution of the problems of physical astronomy, and one of the greatest contributions ever made to science. It was translated into English by Nathaniel Bowditch (q.v.) (1829–39). A collection of Laplace's works in 13 volumes was made by the French government (1878 et seq.). Consult the life by Kaufman (Paris 1841), and Arago, 'Biographies of Scientific Men' (in Eng. trans., Boston 1859).

LAPLACIAN HYPOTHESIS. See COSMOGONY, GEOLOGY and LAPLACE.

LAPLAND, an extensive territory in the north of Europe, between lat. 64° and 66° N., and from the shores of Norway east to those of the White Sea; area, about 150,000 square miles, of which more than a half belongs to Russia; and the remainder is shared in nearly equal proportions between Sweden and Norway. Both from its geographical position and its physical conformation Lapland, or the country of the Lapps, is one of the most forbidding regions of the globe, consisting either of rugged mountains, some of them covered with perpetual snow, and many of them only for a short period free from it, or of vast monotonous tracts of moorland wastes. This extensive territory appears to have been at one time wholly occupied by the people to whom it owes its name; but its southern and better portions have been gradually encroached upon by Norwegians, Swedes and Finlanders. The Lapps call themselves Sabme or Sabmeladsjak (the Norwegians call them Finns), belong to the Ural-Altaic stock, and are consequently closely related to the Finns (Suomi). As a race they are the shortest people in Europe (four or five feet in height). They are spare of body, with dark, bristly hair and scanty beard, and short, often bandy legs. Though not very muscular, they are capable of great exertion and fatigue, and frequently live to a great age. The mouth is large, the lips thick and the eyes small and piercing.

The Lapps are usually distinguished as Mountain, Sea, Forest and River Lapps. The Mountain Lapps, the backbone of the race, are nomads; they move constantly from place to place in order to find sustenance for their reindeer herds, their only source of wealth. In summer they go down to the fiords and coasts, but spend the rest of the year in the mountains and on the plains of the interior. The Sea Lapps, mostly impoverished Mountain Lapps, or their descendants, dwell in scattered hamlets along the coast, and live by fishing. The Forest and River Lapps are nomads who have taken to a settled mode of life; they not only keep domesticated reindeer, but hunt and fish. The nomad Lapps live all the year round in tents. The reindeer supplies nearly all their wants, except coffee, tobacco and sugar. They live on its flesh and milk; they clothe themselves in its skin, and use it as a beast of burden. It is computed that there are 400,000 reindeer in Lapland, for the most part semi-wild. In his personal habits and in his clothing the Lapp is the reverse of cleanly: he gets his last bath when two years old. He is rather prone to self-indulgence, is good natured, but sad-featured and melancholy, miserly and selfish; he is passionately attached to his country. He is opposed to everything that has an appearance of frivolity or pleasure, especially dancing; although the nation is rich in folklore, hymns are preferred to the weird old national songs. The Lapps all profess Christianity; but there still lingers among them vestiges of the old pagan superstitions. Their imagination is easily excited, and they are readily susceptible to religious impressions of a sensational type; a notable "epidemic" of this kind occurred at Koutokeino in Norwegian Lapland in 1848–51. Climatic conditions make their attendance at church infrequent; but the Lapp goes at least once a year, when the burials, christenings, marriages and communions follow each other in succession. It is regarded as a degradation for a Lapp to marry a non-Lapp.

Valuable beds of iron ore have been found within recent years in the southern part of Swedish Lapland, at Gillivari and Kiruna, respectively 44 and 100 miles north of the Arctic circle, and these are being developed by the Swedes with rapidity and thoroughness. At Kiruna in 1886 there was not a single house; in 1914 there was a population of 10,000, with

"movie" shows, a Salvation Army band and a trolley car system (the most northerly in the world) and other marks of an advanced civilization. On the opposite side of Luossajärvi there is a great mountain of iron ore (7 per cent pure metal), the largest deposit in the world, yielding over 3,000,000 tons a year. The Lapps themselves will not work in mines, regarding it as devil's work, and in consequence the mines are operated by a motley crowd of cosmopolitans.

The Lapps of Norway and Sweden belong to the Lutheran Church, those of Russia to the Greek Church. The Norsemen treated the Lapps as a subject race as early as the 9th century, but had to reconquer them in the 14th; the Russians followed in the 11th, and the Swedes in the 16th. From the 13th to the 17th century the Lapps were kept in a state little better than slavery by Swedish adventurers known as Birkarlians. But at the present day both the Scandinavian governments bestow on them every consideration; they pay no taxes of any kind; they have an organized system of local government; stationary and ambulatory schools are maintained for the benefit of their children; and they are exempt from military service. The number of Laplanders is not supposed to exceed 30,000 of all descriptions, of whom Norway has nearly 15,000, Sweden about 7,000, the rest belonging to Russia. Probably one-third of them are nomadic. Consult Acerbi, G., 'Travels through Sweden, Finland, and Lapland . . . in 1798 and 1799' (2 vols., 1882); Du Chaillu, P. B., 'Land of the Midnight Sun' (New York 1882); and 'Land of the Long Night' (ib. 1899); Fulton, J. W. H., 'With Ski in Norway and Lapland' (ib. 1912); Rae, Ed., 'The Land of the North Wind' (London 1875); and 'The White Sea Peninsula' (ib. 1882); Tromholt, S., 'Under the Rays of the Aurora Borealis' (2 vols., London 1885); Walter, L. E., 'Norse and Lapp' (New York 1913); and 'Lapland, Sweden's America,' in 'The American-Scandinavian Review' (Vol. II, 1914).

LAPLAND LONGSPUR. See LONGSPUR.

LAPORTE, lą-pôrt', Ind., city and county-seat of Laporte County, on the Lake Shore and Michigan Southern, the Père Marquette, Lake Erie and Western and several other railroads, 59 miles east of Chicago. It is the farming trade centre for the county; and is also engaged in the manufacture of woolen goods, agricultural implements, saw mills, cooperages, braiding mills, foundry and machine shops, sash and door factories, a brewery, manufactories of furniture, carriages, woolen goods, radiators, pianos, blankets, bicycles, flour, wheels, hubs, etc. It is an attractive summer resort, having several beautiful lakes in its vicinity; contains a handsome courthouse, city hall, Saint Rose's Academy, the Ruth C. Sabin Home, the Association House for women and girls, a hospital, Fox Memorial Park and public library; and has an electric-light plant, waterworks supplied from one of the lakes; several churches, national and State banks, daily, weekly and monthly periodicals, and an assessed property valuation of about $4,000,000. In the winter large quantities of ice are cut at the lakes here and shipped to Chicago. The city is governed by a mayor and council, elected for a term of four years. The waterworks are the property of the city. Laporte was incorporated in 1832 and received its charter as a city in 1852. Pop. 12,533. Consult Packard and Daniel, 'History of Laporte County' (Laporte 1876).

LAPPARENT, lą'pą'rän', **Albert Auguste Cachon** DE, French engineer and geologist: b. Bourges, 30 Dec. 1839; d. Paris, 5 May 1908. He was educated at the École Polytechnique and at the École des mines. In 1858–60 he was an engineer in the mining corps engaged in making a geological map of France; and in 1874 he became secretary of the Channel Submarine Tunnel Committee, and with A. Potier made the geologic surveys in connection with the Channel Tunnel project. He received the appointment of professor of geology and mineralogy at the Catholic Institute, Paris, in 1875; and was also professor of mineralogy, geology and physical geography of the École Libre des Haute Études. He was president of the French Geological Society in 1880, and was elected to the Académie des Sciences in 1897. He published 'Traité de Géologie' (1 vol., 1881; 5th ed., 3 vols., 1905); 'Cours de mineralogie' (1884; 3d ed., 1899); 'Les Tremblements de terre' (1887); 'La Philosophie minerale' (5th ed., 1910), etc.

LAPPENBERG, Johann Martin, German historian: b. Hamburg, 30 July 1794; d. there, 28 Nov. 1865. He was educated at the University of Edinburgh, later studying in London, Berlin and Göttingen. In 1820 he was elected by the Hamburg Senate as Resident Minister at the Prussian court. In 1823 he became keeper of the Hamburg archives, and he there laid the foundations of his fame as a historian through his exhaustive researches, continuing in the office until 1863. He served as Hamburg's representative in the German Parliament at Frankfort in 1850. His publications include 'Geschichte von England' (2 vols., 1834–37); 'Ueber den ehemaligen Umfang und die Gechichte Helgolands' (1831); 'Hamburgisches Urkendenbuch' (1842); 'Urkundliche Geschichte des Hansischen Stahlhofes zu London' (1851), etc. He was also an editor of the 'Monumenta Germaniæ historica.'

LAPRADE, lą'prąd', **Pierre Martin Victor Richard de** (VICTOR DE LAPRADE), French poet and critic: b. Montbrisen, 13 Jan. 1812; d. Lyons, 13 Dec. 1883. He was educated for the law at Lyons but turned to literature for a career. He produced four volumes of verse in the years 1839–44, and in 1845 traveled in Italy engaged in literary research. He received the professorship of literature at Lyons in 1847 and in 1858 he was elected to the French Academy. The publication of his political satire 'Les Muses d'Etat' (1861) caused his removal from his professorship at Lyons. He was elected to the National Assembly in 1871. His patriotic poetry ranks highest among his work. His verse includes 'Les Parfums de Madeleine' (1839); 'La Colère de Jésus' (1840); 'Psyche' (1841); 'Odes et poèmes' (1844); 'Idylls Héroïques' (1858); 'Poémes civiles' (1873); 'Le livire des adieux' (1878), etc. In prose he was author of 'Des habitudes intellectuelles de l'avocat' (1840); 'Questions d'art et de morale' (1861); 'Edu-

cation Libérale' (1873), etc. Consult Biré, E., 'Victor de Laprade.'

LAPRADELLE, lą'prą'dĕl', **Geouffre de,** French international lawyer: b. Paris, 1871. He was professor of international law at the universities of Paris and Grenoble, and in 1914 was exchange professor at Columbia University, where he received an honorary LL.D.; with Professor Politis he established in 1905 the *Recueils des arbitrages internationaux.* His writings cover discussions of international rights over territorial waters, disarmament and similar matters. Author of 'Imperialism and Monroeism'; 'Théories et practiques des fondations' (1894); 'La questione du Maroc' (1904); 'La Guerre et le droit des gens' (1908).

LAPRAIRIE, lą'prā'rē, Canada, capital, village of Laprairie County, Quebec province, on the south shore of the Saint Lawrence River and eight miles southwest of Montreal on the Grand Trunk Railway. It is a summer resort and is growing in industrial importance. It was the starting point of the first railway built in British North America, in 1832. It possesses an old fort which in June 1700 was attacked by Col. Peter Schuyler and his New England troops in the "Battle of Laprairie." Pop. 2,388. Laprairie, also a district of 319 square miles in Quebec province.

LAPSE, legal term with several definitions. In the law of wills lapse is where a beneficiary under the will dies before the testator and the legacy is lost, or fallen and automatically becomes a part of the residuum of the testator's estate, unless provision is made in the will to prevent such lapse. In several States the law provides against total lapses in certain cases, as in the instance of children or grandchildren surviving the legatee, in which case the bequest would go to the heirs by direct descent. There is a distinction between "void" and "lapse," a bequest becoming void when the legatee is dead at the time of the making of the will.

In ecclesiastical law a benefice is adjudged to have lapsed when the patron fails within six months after the avoidance of the benefice to exercise his right of presentment. In such case the rights of patronage devolve upon the bishop as ordinary patron, the metropolitan as superior patron, and the sovereign as patron paramount of all the benefices in the realm.

In English criminal procedure "lapse" is used in the sense of "abate," to indicate that the death of one of the parties involved brought the proceedings to a conclusion.

LAPSED, term applied in the early days of Christianity to those converts who fell away from faith in times of persecution, returning to heathen practices such as idol worship, burning incense or sacrificing to the heathen gods. Excommunication was the punishment accorded such as denied the faith or reverted to heathen practices, and there was vigorous opposition to their being restored to the Church. However, on profession of penitence they were permitted to hope for reinstatement in the Church, but were compelled to pass a long probation and perform special penances, and most often were admitted to communion only at the time of death.

LAPUTA, island described in Swift's 'Gulliver's Travels' as floating in the air guided by a loadstone under the control of the inhabitants. It was peopled by a race of philosophers devoted to mathematics and music, and who let their land run to waste and their people live in penury while they devoted themselves to visionary schemes such as softening marble "for pillows and pincushions," extracting "sunbeams from cucumbers" for use in raw weather, and similar absurdities, directed as satire against Sir Isaac Newton and the Royal Society. The philosophers were attended by "flappers" whose duty it was to awaken them from their deep introspection when addressed. Laputa in many respects resembles the "lantern-land" in Rabelais' "Pantagruel," Swift being generally believed to have imitated that work.

LAPWING, a plover (*Vanellus vanellus* or *cristatus*), found throughout temperate Europe and Asia, across the whole breadth of which it breeds. It has a hind toe and in this respect departs from the true plovers. In the summer a few are found as far north as Norway, Iceland and Greenland, and in winter they migrate for the most part to Africa and India. In its habits the lapwing much resembles the American killdeer; and, like that bird, it is hated by gunners on account of its alarm-cries. This pursuit and the market demand for its flesh, and more especially for its eggs, greatly reduced its numbers, especially in Great Britain, where it is again on the increase due to its recent protection by law. The lapwing is noteworthy for the long flowing crest on the head, the contrasting white and deep iridescent green of its plumage, and for its peculiar jerking, yet rapid flight. In the breeding season it is always seen in pairs, but in the winter months great flocks are visible on the seashore and on the borders of marshes. Consult Newton, 'Dictionary of Birds' (London 1896), and 'The Lapwing, Green Plover, or Peewit' (in 'Agriculture and Fisheries Board of Great Britain, Leaflet No. 44' 9th ed., ib. 1905).

LAPWORTH, Charles, English scientist: b. Farringdon, Berkshire, 1842. He was trained as a schoolmaster at Culham College, ham University, holding the chair until 1913. 81. The whole of his leisure was devoted to geology, and in 1881 he was appointed professor of geology and physiography at Birmingham University, holding the chair until 1913. He has done notable work in his geological investigations, especially in the Durness-Eriboll district of Scotland, which he began in 1882, and during the course of which he established his theory of "rock-fold" and interpreted the complicated strata which had baffled previous observers. Among his works are 'The Geological Distribution of the Rhabdophora' (1880); 'Intermediate Text-Book of Geology' (1899); 'British Grapholites' (1900–08), etc.

LARAMIE, lăr'ą-mē, Wyo., city and county-seat of Albany County, on the Laramie River and the Union Pacific Railroad, 58 miles west of Cheyenne, the State capital. It is a popular summer resort, being situated on the plains in close proximity to the mountains. It is the shipping and trade centre for a large stock-raising and mining section; and is also

engaged in manufacturing; has large deposits of gold, silver, lead, graphite, antimony, cinnabar and other minerals; and rolling mills, plaster mills, planing mills, a tannery, a packing plant, limestone quarries, plaster mills and railroad and machine shops. It is the seat of the University of Wyoming, the State fish hatchery, Agricultural Experiment Station, and the State penitentiary; contains public and college libraries, Elks Home, State Museum and Saint Joseph's Hospital; and has electric-light plants, waterworks, daily and weekly newspapers, and an assessed property valuation of over $1,500,000. Laramie was first settled in 1867 by employees of the Union Pacific Railroad, incorporated in 1869 and chartered as a city in 1884. The municipal government is vested in a mayor and a council of six members elected biennially. The waterworks are owned by the municipality. Fifty per cent of the population are American born, 20 per cent Scandinavian and 10 per cent German. Pop. 8,250.

LARAMIE MOUNTAINS, a Rocky Mountain range which extends through Wyoming and Colorado, and bounds the Laramie Plains on the east. The highest point is Laramie Peak, 10,000 feet high. Coal is the principal mineral, and is found in the foothills of the range.

LARAMIE PLAINS, a plateau in southeastern Wyoming, about 7,500 feet above sea-level. It is situated between the Laramie and Medicine Bow Mountains, in the counties of Albany and Carbon. In spite of its high altitude the region has become a highly developed and very prosperous agricultural centre.

LARAMIE RIVER, an important stream rising in northern Colorado and flowing into the North Platte at Fort Laramie in Wyoming. Its length is about 200 miles.

LARAMIE STAGE, geological formation of western North America from about the 26th to the 56th parallel and, in certain districts, from the 103d to the 115th meridian. There has been considerable controversy as to the true geological age of the strata, and it is now assumed that it represents the time-hiatus between the Cretaceous and Tertiary series. It varies from a depth of about 4,000 feet in Colorado to much greater depth in Montana and Canada and to only a few hundred feet in other regions. The formation is remarkably uniform and appears everywhere to have been the result of continuous sedimentation from base to top. Its strata is composed mostly of sandy material; shaly strata also occur, and the formation is coal-bearing in its entire extent. Molluscan fauna of both fresh and brackish waters, many species of reptiles and land plants characterize the fossils of the entire formation. Consult 'United States Geological Survey Bulletin No. 82' (Washington 1911).

LARASH, lą-rāsh, or **EL-ARAISH,** Spanish Morocco, seaport and capital city of Azgar province on the Atlantic Coast, 43 miles by sea southwest of Tangier. It was originally a favorite port for wintering vessels, its waters being fairly deep inside the bar, but the alluvial soil brought down by the Wad Lekkus now prohibits its admitting any but small vessels. It has an ancient wall in fair condition and 10 antiquated forts. The Spanish occupation of 1610–89 is evidenced by towers of Saint Stephen, Saint James and the castle of Our Lady in Europe, the latter now the kasbah or citadel. The town has a fine market place and its streets are generally paved. It exports wool, sheep skins, goat hair and goat skins, fullers' earth, grains and fruits. The trade of the town is about $2,500,000 annually. There is a tradition which connects Larash with the Garden of the Hesperides. Pop. about 6,000.

LARBOARD, left side of a ship looking toward the bow, a term probably derived from its usually being the lading-side. The word is now obsolete, its similarity to its opposite "starboard" having caused it to be superseded by the word "port." In the United States navy since 1913 steering orders have been changed to "right rudder" and "left rudder."

LARCENY, the fraudulent appropriation of the personal property of another person without that person's consent. To constitute this crime the removal of the goods to any distance is not necessary, but it requires to be shown that the article has completely passed, for however short a time, into possession of the criminal. Concerning the kinds of things the appropriation of which is larceny, the common law restricted them to personal property as distinguished from real estate, but this distinction has been largely abolished by recent statutes. At one time in Great Britain the punishment for grand larceny was death; later it was restricted to transportation; now the punishment for larceny is imprisonment, the same as in the United States, and depends on the previous character of the prisoner. The common-law rules on larceny have been greatly modified by statute and the conversion of goods to one's own use with felonious intent, as in the embezzlement of funds which has been confided to one, is now defined and punished as larceny. It is necessary to consult the legislation in each State jurisdiction. Consult Bishop, 'Commentaries on the Law of Statutory Crimes' (Chicago 1901), and Clark and Marshall, 'The Law of Crimes' (2d ed., Saint Paul 1905). See also THEFT.

LARCH, a genus (*Larix*) of coniferous trees characterized by a pyramidal habit of growth; small linear leaves arranged in clusters upon the older branches, singly and spirally upon the young twigs, often conspicuous pistillate flowers which develop small, erect, globose or oblong cones, the attenuate scales of which are not deciduous at maturity. The species, of which there are about a dozen, are natives of the colder parts of the northern hemisphere. The best-known one in the United States is the American larch, hackmatack or tamarack (*L. laricina*), which grows generally in wet, peaty soils and shallow swamps, or occasionally upon drier upland soils, from Hudson Bay to Pennsylvania, and westward to Manitoba and Illinois. It attains a height of 60 or more feet, and has nearly horizontal branches. Its wood is hard and very durable, but light in proportion to its size. Being very straight and slowly tapering, the trunks are much used for telegraph poles, scaffold-supports, fence-posts, railway-ties and in ship-building. It is less planted for ornamental

purposes than the following species because its branches are less pendulous and less leafy.

The European larch (*L. decidua*) grows usually upon dry uplands and a wide range of soils, but rarely in moist ground. Its range is from the mountains of southern Europe to the far north, where it is among the few hardy trees; in Asia it has a similar distribution. In height it exceeds the tamarack, often reaching 100 feet, and since it is of rapid growth, and is used for an even larger number of purposes than the preceding, it is often planted for commercial purposes, windbreaks and for ornament. The timber which is rich in resin and is practically exempt from insect attacks is valuable for wet situations. It is little used for planks because it warps badly. Since it does not ignite readily and does not splinter it was largely used in wooden battle-ships. Its bark, which contains tannin, is somewhat used in preparing leather; its stem yields Orenburgh gum resembling gum arabic; and its leaves in warm climates exclude Brançon manna, a sweetish, turpentine-flavored manna (q.v.).

The other species more or less resemble the foregoing in habit and uses. The most beautiful and ornamental is probably *L. leptolepis,* a native of Japan. It attains height of 70 and 80 feet and is remarkable for the brilliant autumn colors of its foliage. All the species except the Himalayan larch (*L. griffithii*), which seldom exceeds 40 feet in height, are hardy throughout the United States. The timful and ornamental is probably *L. leptolepis,* a native of the Pacific Coast region from Oregon northward, is considered the best yielded by coniferous trees. The tree is the largest of the genus, often reaching a height of 150 feet.

The only insect seriously harmful to the larch is a sawfly (*Nematus erichsonii*), whose young hatch in early summer from eggs previously inserted into the young shoots, and immediately begin feeding upon the leaves. This pest is occasionally sufficiently numerous to defoliate large tracts of forest.

LARCH SAWFLY, insect pest (*nematus erichsonii hartig*), whose larvæ feed upon the foliage of larch trees. The pest exists in Canada, United States and England and is very destructive, entire forests being defoliated. The eggs, which are laid in the new growth of wood, hatch in June or July and the larvæ usually feed until August.

LARCHEY, Etienne Lorédan, French author and antiquarian: b. Metz, 1831; d. Paris, 1902. He was educated at the Collège Saint Louis and the École des Chartes. He received an appointment at the Mazarin Library in 1852 and later became its librarian, leaving there in 1873 to become adjunct curator at the library of the arsenal where he was curator from 1880. He was noted for historical and linguistic research, and did much editing and miscellaneous writing. Author of 'Un Mois à Constantinople' (1855); 'Eccentricités du langage' (1860); 'Origines de l'artillerie française' (1862); 'Maitres bombardiers de Metz' (1860); 'Petits documents pour sevir à l'histoire de nos mœurs' (1869); 'Mémorial illustré des deux sièges' (1871), etc.

LARCHMONT, or LARCHMONT MANOR, N. Y., village in Westchester County, on Long Island Sound, and 21 miles northeast of Grand Central Station on the New York, New Haven and Hartford Railroad. It is a growing suburb of New York; and is also a summer resort, with advantages in bathing and fishing. It was at one time the home of J. Fenimore Cooper. Pop. 2,060.

LARCOM, Lucy, American poet: b. Beverly, Mass., 1826; d. Boston, 17 April 1893. In her youth she was a factory girl in Lowell, Mass., and to the *Lowell Offering,* a magazine conducted by the operatives in the cotton-mills, made contributions which attracted the favorable notice of Whittier, with whom she afterward compiled 'Child-Life' and 'Songs of Three Centuries.' For three years she studied at Monticello Seminary (Godfrey, Ill.), for six years taught in Wheaton Seminary (Norton, Mass.). She was editor-in-chief of *Our Young Folks,* a Boston magazine, later merged with *Saint Nicholas,* in 1865–74. She passed her later years at Beverly Farms, Mass. She edited several collections of verse, and published 'Ships in the Mist, and Other Stories' (1859); 'Poems' (1868); 'An Idyl of Work, a Story in Verse' (1875); 'Childhood Songs' (1877); and 'Wild Roses of Cape Ann, and Other Poems' (1880); 'A New England Girlhood Outlined from Memory,' an autobiography (1899). Her collected poetical works appeared in 1884. Her poems of New England life were especially effective, perhaps the best known being 'Hannah, Binding Shoes.' Consult Addison, 'Life, Letters and Diary of Lucy Larcom' (Boston 1894).

LARD, the melted and strained fat of swine, which differs in its situation from that of almost every other quadruped, as it forms a thick, distinct and continuous layer betwixt the flesh and the skin, somewhat like the blubber in whales. The greater part of the finer sorts of the lard of commerce is procured from the abdominal part of the animal. Lard is rather soft, white and readily fusible at 100° F. It consists of stearin, which is a solid, and olein, which is a liquid fat; but it usually contains small quantities of impurities, and it is to them probably that it owes its becoming occasionally rancid. Lard is much used for culinary purposes such as pastry making, for shortening and for frying, and as a base for various ointments. Stearin is used for candle-making, and olein is much used as a lubricant for machinery. *Leaf lard* is taken only from the fat surrounding the kidneys. Formerly lard was much adulterated but recent legislation has stopped this almost completely. Great quantities are exported annually from the United States. There are now in the market several substitutes for commercial lard.

LARDNER, Dionysius, Irish physicist: b. Dublin, 3 April 1793; d. Naples, 29 April 1859. He was graduated from Dublin University in 1817 and was made professor of astronomy and physics in the University of London in 1828. From 1840 to 1845 he lived in the United States, where he gave popular scientific lectures in many towns. He wrote several notable mathematical treatises; and edited, himself becoming one of the chief contributors, a 'Cabinet Cyclopædia' (134 vols., 1829–49). Among his other writings are 'Manual of Electricity,' etc. (1841); 'Treatise on Heat' (1844); 'The

Steam Engine' (1852); 'Natural Philosophy and Astronomy' (1851–52).

LARDY, Charles (EDOUARD), Swiss lawyer and diplomat: b. Neuchatel, 1847. He took his LL.D. at Heidelberg in 1867. He was appointed first secretary of the Swiss legation at Paris in 1869 and in 1883 he became Minister there. He was the first Swiss member of the Permanent Arbitration Court at The Hague; was president of the Institut de Droit International in 1902; and has served as a delegate to various international conferences. He has written many legal articles and reports on trials and congresses, and translated into French Bluntschli's 'Codified International Law' (1870; 4th ed., 1886).

LAREDO, lā rā'dō, Tex., city, port of entry and county-seat of Webb County, on the Rio Grande opposite Nuevo Laredo, and on the Mexican National, the International and Great Northern, and the Rio Grande and Eagle Pass railroads, about 150 miles west of San Antonio. It is situated in an agricultural and stock-raising region and in the Rio Grande coal belt, with valuable iron ore deposits in the vicinity. Laredo was settled by the Spaniards in 1767 and was incorporated in 1848. The Spaniards found here Indians who tilled the soil and built houses. The early missionaries established here a mission some years before a permanent settlement was made. The chief manufacturing establishments are extensive concentrating and sampling works, brick-yards, furniture factories, foundry and machine-shop products, sheet-metal works, broom and mattress factories, car and machine shops, brick-works, wagon, pickle and cracker factories, a hide establishment, stock-yards, grain elevators and large coal yards. It is the trade centre for a large section of the southwestern part of Texas and has a large international trade. Its imports amount to over $2,500,000 annually and its exports to $14,000,000. It is connected with Nuevo Laredo, on the Mexican side of the Rio Grande, by bridges. Some of the prominent buildings are the courthouse, the jail, the Mexican National Hospital, the Mercy Hospital and the Ursuline Convent. It is the seat of the Laredo Seminary, established in 1882, under the auspices of the Methodist Episcopal South Church, and the Ursuline Academy. The park of 65 acres is an attractive feature of the city. Pop. 15,461.

LARES, Amador de, the contador or royal treasurer of the island of Cuba at the time when Velázquez was governor, that is, in the first quarter of the 16th century. He had, as he proudly boasts, previously spent 22 years in the wars of Italy. He is remembered for the aid he gave Hernán Cortés in securing and retaining the command of the expedition fitted out for the conquest of Mexico in 1518–19. He exerted his strong influence with the governor to secure the appointment of captain-general of the armada for Cortés. In this favor to Cortés, Lares was seconded by his own private secretary, Andrés de Duro, and it was the latter who warned Cortés, when Velásquez, suddenly changing his mind, was about to deprive the latter of the command of the expedition even before he had his vessels completely fitted out or had sailed from the island of Cuba. This warning permitted Cortés to sail suddenly before the notice of demotion from Velásquez could reach him. After the future conqueror had sailed away on his brilliant venture Lares remained his friend and helped to furnish him information that was invaluable to him. His name is, therefore, inseparably connected with that of Cortés and the conquest of the domains of the Aztecs.

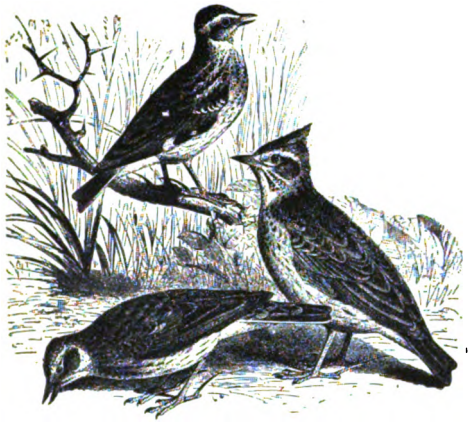
LARES, plural of the Latin word *lar,* tutelary divinities of the Romans, originally either the spirits of ancestors who watched over the family of a descendant or, according to a perhaps more probable view, gods of the lands on which the man's house stood, and only later household gods. See LARS.

LARGESS, or **LARGESSE,** term used in mediæval times by the minstrels, who as a reward for their services at the feasts of their lords used to cry "Largess!" The term was also used to designate fees paid to heralds for services on high occasions. While more or less archaic the word has still vocabulary place in the sense of a large gift, bounty, donation or present.

LARGILLIERE, lär'jil'yär'. **Nicolas,** French portrait painter: b. Paris, 20 Oct. 1656; d. there, 20 March 1746. He studied at Antwerp under Goubeau and at 18 went to England where for four years he worked under Lely. His work attracted the favor of Charles II, but the hatred engendered against Roman Catholics by the Rye House Plot and culminating in ordinances for their expulsion caused him to withdraw to Paris in 1678. There he made the acquaintance of Mme. Le Brun and of Van der Neulen, and he speedily gained recognition as a portrait painter. There remains some doubt as to the place where Largillière's portraits of James II, the queen and the Prince of Wales were painted, for while the painter was recalled to London after the accession of James II, his stay was brief and the birth of the prince was a later event, so that the portraits were probably painted in Paris. He became a member of the Academy in 1685, his diploma picture being the portrait of Le Brun now in the Louvre. He was made chancellor of the Academy in 1743. Among his sitters were the greatest celebrities of his day, Huet, bishop of Avrauches, Cardinal de Noailles, President Lambert and his wife and daughter being among them. While he occasionally treated other subjects his fame rests upon his portraits of which he is said to have produced about 1,500, including those of both single sitters and large portrait groups. His work is well represented in the leading European portrait galleries and was widely circulated through engravings executed by Van Schuppen, Desplaces, Pitou and others.

LARGO, lär'gō, musical term from the Italian designating a slow tempō, largely used to indicate a slow, broad, solemn style. Handel often employs it, as in the 'Messiah' and 'Behold the Lamb of God.' Haydn used it in the introduction, the first chorus and in the introduction to the third part of the 'Creation.' Beethoven used it to convey only grandeur and deepest feeling. Style, not pace, is its dominating characteristic. The term "largamento" indicates breadth of style without change of tempo.

LARKS



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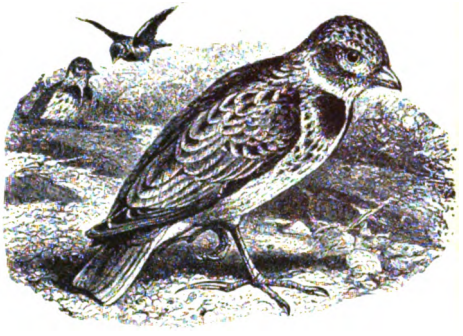

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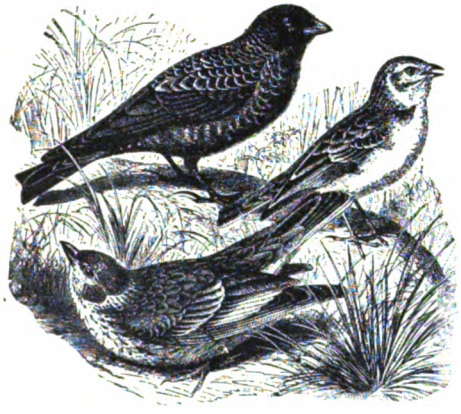

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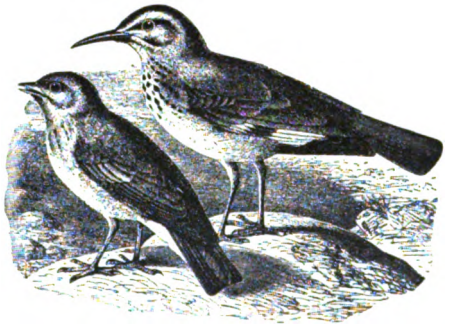

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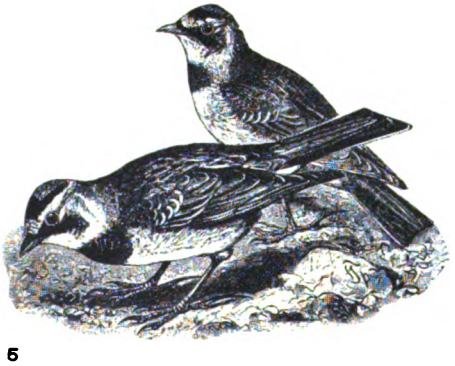

5

1 Wood-lark, Sky-lark and Crested Lark
2 Alanda calandra
3 Alanda yeltoniensis; A. sibirica; A. brachydactyla
4 Desert Larks
5 Horned Lark

LARGS, lärgz, Scotland, seaside resort in Ayreshire County, on the Firth of Clyde, 43 miles southwest of Glasgow on the Glasgow and Southwestern Railroad. It has a superior beach, dry climate and excellent yaching facilities. Its historical remains constitute Skelmorlie Aisle, a relic of the old parish church of Saint Columba, converted into a mausoleum in 1636 and a mound supposed to cover the remains of the Norwegians killed in the battle between Haakon of Norway and Alexander III in 1263. Pop. 3,724.

LARI, lä'rē, Italy, market town in the province of Pisa, 14 miles by rail southeast of Pisa and 14 miles northeast of Leghorn. It has hot springs and is situated in an agricultural district producing fruit, grain, wine and oil. Pop. about 2,000. Pop. of commune 12,268.

LARI, suborder of birds including the gulls and their allies. They are of large or medium size, with aquatic habits, and possess long and, as a general thing, pointed wings in which there are 11 primaries, the last of which is extremely short. The three front toes are webbed, and the hind toe, not always present, is not united with the others. The nostrils are slit-like and the birds have a split palate. Of the suborder the gulls, terns and skimmers have bills without a cere and the claws only slightly curved. The skuas or jaegers have a bill with a cere almost half its length, and strong, curved, sharp claws. As a rule they make no nest or but a suggestion of one, and lay from one to four eggs. The young are covered with down when hatched, and while of somewhat independent habit are kept near the nest and fed by the parents. The plumage of the fully developed birds is thick and soft and of neutral tints. They are scattered over the world and include some 125 varieties.

LARIAT. See LASSO.

LARIDÆ, the family of sea-going birds which includes the skuas (*Stercorarinæ*), gulls (*Larinæ*), skimmers (*Rhynchopinæ*) and terns (*Sterninæ*), but some naturalists regard the skuas and skimmers as each of family rank. They are practically cosmopolitan, although the great majority are restricted to sea-coasts.

LARIOSAURUS, lăr-ĭ-ō-sâ'rŭs, a genus of fossil reptiles, of the family *Nothosauridæ*, allied to the plesiosaurs, which were lizard-like in shape, rarely a yard long and had heads of moderate size with numerous prehensile teeth. Nearly complete skeletons of *L. balsami* are obtained from the black Triassic shales near Lake Como and from the German Muschelkalk.

LARISSA, lä-rēs'ä, Greece, city and capital of a nomarchy or province in Thessaly, on the Salamvria River, 35 miles northwest of the port of Volo, with which it is connected by railway. Situated in a rich agricultural district, it is now the largest, richest and most populous city in Thessaly, is the seat of a Greek archbishopric, and has tobacco, cotton, leather and silk industries. For centuries under the rule of the Turk, it was ceded to Greece in 1881, since which time the large Mohammedan population then residing there has greatly declined. It was the headquarters of the Greek army mobilization in the Balkan War of 1913. Pop. about 18,000.

LARIVEY, lą'rē'vā', **Pierre de,** French dramatist: b. Troyes about 1550; d. 1612. He came from a famous Italian family of printers, and is said to have cast horoscopes and been clerk at the church of Saint Etienne where he afterward became a canon. While not the pioneer of French comedy he was the first to make use of ordinary natural dialogue on the stage. His dramas were chiefly adaptations from the Italian, and of the 12 he wrote nine were printed as 'Comédies facétieuses' (Vol. I, 1579; Vol. II, 1711). While prose comedy was never popular until Molière's time it is generally admitted that both Molière and Regnard were signally influenced by the work of Larivey. He was also a translator of catholic taste, his subjects ranging from Straparola's 'Facètieuses nuits' (1573) to Aretino's 'Humanité de Jésus-Christ' (1604). His plays were reprinted in Jannets' 'L'Ancien Théâtre français' (Vols. V–VII, 1879).

LARK, a bird of the family *Alaudidæ*. Larks are small, ground-keeping birds, with small awl-like beaks, the long tarsi scutellated posteriorly, and the claw of the hind toe usually greatly lengthened; the wings vary much in length, but are usually short, as also is the tail. The normal coloration is light brown with darker longitudinal streaks, the under parts being whitish and the breast usually spotted. There is frequently a crest or decided blackish marks about the head, while the desert forms are, as usual, pale and ornamented. Larks dwell in open grassy places, making their nests on the ground or among rocks, sometimes elaborately, and laying spotted eggs; they are sociable, but hardly gregarious. Some frequently perch on trees, and most of them soar while singing, as is well known of the sky-lark (q.v.), and the song of many resembles that of this renowned musician. It is a physiological peculiarity of the family that larks molt only once a year. The food consists of insects and their larvæ, worms, small seeds, buds, berries, etc. The flesh of all is considered a dainty, and great numbers are caught annually on both sides of the Mediterranean to be sold in the markets. The family includes about 100 species, divided among about a dozen genera, of which only one, *Otocorys*, with probably but a single species (the horned lark, q.v.) is found in America, and only a single species occurs in Australia. The remainder of the family belongs to Europe, Asia and Africa, where familiar types are the sky-lark and wood-lark (qq.v.).

The name is also given to many more or less similar birds of other families, as to several of the pipits and Old World warblers, while the meadow-lark (q.v.) of the United States is a starling.

LARK-BUNTING, a fringilline bird of the western plains of the United States, the male of which in summer is solid black, except a conspicuous white patch on the wings and the female brown-streaked. The habits of the pair are terrestrial, and the male soars in singing after the manner of the sky-lark and with some similarity in notes. A very different bird, one of the smaller plains sparrows (*Chondestis grammaca*), is known as the lark-finch.

LARK FINCH, or **LARK SPARROW** (*Chondestes grammacus*), small grayish-brown

sparrow of the Mississippi Valley region, called lark finch because of its thick, finch-like bill. Its head is marked with black and white streaks and has a chestnut patch. It nests in bushes or trees and feeds on grasshoppers, locusts and weevils and the seeds of weeds and grass. The song is long and varied, with a purring phrase and is very pleasant.

LARKIN, James, Irish labor leader. He organized the Irish Transport and General Workers' Union, with the purpose of uniting under central leadership all Irish labor. He was prominent in several strikes, most notably in that of the Irish Transport Workers' Union beginning 26 Aug. 1913. The strike was attended by sabotage and violence and engendered severe suffering among the strikers because of inadequate funds and its continuation into the winter. Larkin was tried and sentenced to seven months' imprisonment for sedition, but was released on bail and found his popularity increased by the experience. He edited the *Irish Worker,* and in 1912 was elected to the Dublin corporation. He possesses a large following, "Larkinism" in Ireland being similar to the I. W. W. in America.

LARKSPURS, a genus (*Delphinium*) of annual and perennial herbs of the family *Ranunculaceæ,* characterized by palmately lobed or divided leaves and showy racemes or panicles of large irregular flowers. Many of the species, of which there are about 60 in the north temperate zone, are cultivated for ornament, and have developed numerous improved varieties, some of which are double-flowered. The most popular annual species is *D. ajacis,* which attains a height of about 18 inches and bears showy blue, pink or violet, sometimes white, flowers throughout the summer. Of the perennial species, *D. formosum, D. grandiflorum* and *D. hybridum* are most popular in America, and have yielded the largest number of horticultural varieties. They are all natives of Asia, become two to four feet tall, blossom during midsummer and are noted for their beautiful tints of blue, their hardiness and ease of cultivation. If cut down immediately after flowering they often blossom a second time before frost. Among the best-known American species are *D. menziesii, D. scopulorum* and *D. nudicaule,* which range from the Pacific Coast to the plains region; and *D. exaltatum, D. tricorne* and *D. carolinianum,* found most commonly east of the Mississippi. The larkspurs thrive best in rich, deep, sandy loam well exposed to the sun. The annuals are propagated from seed, as are many of the perennials, which are also increased by cuttings taken in early spring or from second growth in summer. Established clumps may be divided in fall or spring. Since the seeds are very slow in germinating they are usually sown in autumn out of doors or in early winter in a greenhouse.

LARKSVILLE, Pa., borough in Luzerne County, three miles northwest of Wilkesbarre, on the Susquehanna River. It has a growing population and its chief industry is coal mining. Pop. 9,288.

LARMINIE, William, Irish poet: b. County Mayo, 1849; d. Bray, 19 Jan. 1900. He spent most of his life in the civil service, ill-health compelling his retirement a few years before his death. He was identified with the Irish Literary Revival and was strongly influenced by the Gaelic legends. His dramatic poem 'Moytura' ranks among his best work. He published a collection of 'West Irish Folk Tales' (1893) and was author of 'Glaulua and Other Poems' (1889); 'Fand and Other Poems' (1892). A selection of his verse is given in Brooke and Rolleston's 'Treasury of Irish Verse,' accompanied by an appreciation by George Russell ("A. E.").

LARMOR, Sir **Joseph,** British physicist: b. Magherall, County Antrim, Ireland, 11 July 1857. He was educated at Queen's College, Belfast, and Saint John's College, Cambridge. He was professor of natural philosophy at Queen's College, Galway, and at the Queen's University in Ireland in 1880–85; examiner in mathematics and natural philosophy in the University of London, and lecturer in mathematics at Cambridge University in 1885–1903. He was knighted in 1909 and since 1911 has served as member of Parliament from Cambridge University. He is a member and officer of many scientific societies, and in 1915 received the Royal Society's Royal Medal. He has published numerous articles on mathematics and physics, and is author of 'Æther and Matter' (1900).

LARNACA, or LARNAKA, or LARINCA, Cyprus, city at the head of a bay on the south coast, 23 miles southeast from Nicosia. It is the chief seaport of the island and is built on the site of the ancient Citium. It has Phœnician inscriptions, Mycenean tombs and other antiquities, but the ancient citadel was leveled in 1879. It has an iron pier 450 feet long and the harbor affords anchorage waters from 16 to 70 feet deep. Exports, grain, fruit, raisins and gypsum. Pop. 8,681.

LARNAUDIAN EPOCH, period at the close of the Bronze Age in European prehistoric archæology. It was named from the Larnaud station situated in the Jura Mountains.

LARNE, Ireland, seaport city of County Antrim, on Lough Lorne, an inlet of the North Channel, 18 miles north of Belfast, on the Belfast and Northern Counties Railroad. Larne's situation, 39 miles from the Scottish coast, makes it a base of the shortest passage from Ireland to Great Britain, and there is a daily mail service. It is a market town and seaside resort, ships iron ore and there are a bleaching establishment, flour mills and a weaving factory. Pop. 8,036.

LARNED, Josephus Nelson, American author and librarian: b. Chatham, Ontario, Canada, 11 May 1836; d. 1913. He was a member of the editorial staff of the Buffalo *Express* 1859–69, and editor, 1869–72; he was then superintendent of public education in Buffalo for a year, and in 1877 became librarian of the Buffalo Library, a position which he held for 20 years. He was president of the American Library Association in 1893–94. He edited and published (1902) 'The Literature of American History,' a bibliography, in which the "scope and comparative worth" of each book is indicated in short annotations by historical students. His other works include 'Talks about Labor' (1877); 'History for Ready Reference' (7

vols., 1895–1910; rev. ed., 1913); 'Talk about Books' (1897); 'History of England for Schools' (1900); 'A Multitude of Counselors' (1901), and 'Primer of Right and Wrong' (1902); 'History of the United States for Secondary Schools' (1903); 'Seventy Centuries: A Survey' (1905); 'Books, Culture and Character' (1906); 'A Study of Greatness in Men' (1911); 'A History of Buffalo' (1911).

LARNED, Kan., city and county-seat of Pawnee County, at the junction of the Arkansas and Pawnee rivers, 240 miles southwest of Topeka. It is on the Missouri Pacific and the Atchison, Topeka and Santa Fe railroads, and is the shipping centre of a large farming and stock-raising country. It has flour mills, foundries, an ice factory, grain elevators, machine shops and other industries and has electric light and waterworks. The State hospital for the insane is located here. It contains also the Larned Sanitarium, a hospital, city library and old Fort Larned Military Reservation and fort. The city is governed by a mayor and council elected every two years. Pop. 2,511.

LAROMIGUIÈRE, là'rō'mē'gyăr', **Pierre**, French philosopher: b. Livignac, 3 Nov. 1756; d. Paris, 12 Aug. 1837. He studied under Condillac, and became professor of philosophy at Toulouse, but being censured by Parliament for his publication of a treatise on taxation he went to Paris, where he was favorably received. He was appointed professor of logic in the École Normale and lecturer at the Prytanée, and in 1811 professor of the faculty of letters in the University of Paris. He was a member of the Tribunate in 1799. In 1833 he was elected a member of the Academy of Moral and Political Sciences. His theories as a philosopher led him to distinguish clearly between the psychologic phenomena which may be traced to physical causes and the action of the soul itself, and he developed the theory of attention beyond even his master, Condillac, and others who influenced his views, Destutt de Tracy and Cabanis among them. He maintained that the soul is free in its choice and therefore immortal. While not distinctively an originator, but rather a developer of philosophic theory, he possessed a faculty for clear and accurate statement so that his work crystalizes not only the results of his own observations but those of others who influenced his thought. Author of 'Projet d'éléments de metaphysique' (1793); 'Les Paradoxes de Condillac' (1805); 'Leçons de philosophie' (1815–18).

LAROUSSE, Pierre, pé-ăr lă-roos, French lexicographer and encyclopædist: b. Toucy, Youne, 23 Oct. 1817; d. Paris, 3 Jan. 1875. He was the son of village blacksmith. For several years he compiled educational textbooks. In 1865 appeared the first volume of his great library of information, anti-clerical in tone, 'Grande Dictionnaire Universel du XIX Siècle.' It was in 15 volumes, and was completed in 1875; and was followed by an 'Encyclopédie du XVIII Siècle.' He published also small condensed editions of the large works and admirable supplementary publications are regularly issued. Larousse's aim was to be entertaining and bright in his articles rather than scholarly, critical and exact, and the fruits of his enormous labors have been a very present help in time of need to successive generations of journalists. His native town raised a statue to him in 1894.

LARRA, Luis Mariano de, Spanish writer, son of Mariano José de Larra (q.v.): b. Madrid, 17 Dec. 1830. On graduating in arts he entered journalism and became editor, finally, of the *Gacetá de Madrid* (1856–66). He filled many public offices and was decorated by several of the governments of Europe for brilliant literary work and advocacy of governmental and other reforms. He was for a number of years director of the *Boletin Oficial* of the Department of Formento. He was the author of a vast quantity of poetry, short stories and critical articles which appeared in almost every newspaper of note in Spain. Among his formal published works are 'Tres Noches de amor y celos,' 'La gota de tinta,' 'La ultima sourisa' (novels); 'El Amor de la moda,' 'Juicios de Dios,' 'La flor del valle,' 'Batalla de reinas,' 'El amor y le interés,' 'El rey del mundo,' 'La oración de la tarde,' 'Flores y perlas,' 'Oros, copas, espadas y bastos,' 'Las corazones de oro,' 'Un buen hombre,' 'La viuda de Lopez,' and 'Julia' (dramas); 'Las hijas de Eva,' 'La conquista de Madrid,' 'Cadenas de oro,' 'La insula Barataria,' 'Los infiernos de Madrid,' 'Los hijos de la costa,' 'El atrevido en la Corte,' 'Sueños de oro,' 'Lan vuelta al mundo,' 'Chorizos y polacos,' 'Las campanas de Carrion,' 'La guerra santa,' 'Los hijos de Madrid,' 'Boccaccio,' 'El Guerrillero,' 'El Estudiante' (Zarzuelas). The work of Larra is generally interesting, and brilliant in spots; but he wrote too rapidly to produce much of the highest order. His dramas and zarzuelas have been long very popular in Spain and in the Latin-American countries where they have been presented by the best companies. Among the noted musicians who have furnished the music for his zarzuelas are Gaztambide, Arrieta, Rogel, Marqués, Caballero and Barbieri.

LARRA, Mariano José de, Spanish author: b. Madrid, 24 March 1809; d. 13 Feb. 1837. Educated partially in French and partially in Spanish, he early displayed a tendency to compose in both languages and an inordinate love of study. At the age of 13 he had translated from French into Spanish the whole of Homer's 'Iliad' and had written a grammar of the Spanish language. After this he continued his education in Madrid where he studied literature, mathematics, ancient and modern languages and medicine. Dropping the latter in his third year, he began the study of law at the University of Valladolid which he also abandoned. He finally drifted into journalism and literature and became very active in politics. He wrote under a number of *noms de plume*, one of which, "Figaro," he soon made famous. His first popularity was won in a weekly publication entitled *Pobrecito Hablador*, in which he burlesqued very cleverly the so-called bad habits and customs of the Madrid of his day. On the arrival of a more liberal policy toward the press on the death of Ferdinand VII (20 Sept. 1833), he began to take a very active part in politics in which he soon became a noted journalistic contender, satirizing with great cleverness the follies and absurdities of his time. Witty in the extreme, he

never descended to the bitterness of the political, party and personal vituperation of the writers of his day. All the world laughed with him and appreciated the truth of the pictures he painted and the humor of the situations, characters and incidents he depicted, in the best, most fluent and most happy of language which was in general devoid of partisanship and inspired with a spirit of fairness. This fairness of mind and broadness of view increased his popularity and extended the field of his readers. He also acquired a reputation as literary and dramatic critic inferior to that of no other contemporary writer in Spain. At the height of his fame he visited England, France and Portugal and everywhere he was received as a personage of the highest distinction (1835). The following year he visited Belgium and Germany, during which he was elected, in his absence, diputado to the Cortes.

Larra's family relations were unhappy, probably on account of his own lack of domestic qualities; and these were intensified by his relations for several years with a married woman with whom he appears to have been infatuated. Jealousy made his life miserable both at home and in his irregular marital relations, the latter of which becoming unbearable to the woman in the case, she turned her back on the poet; and Larra, in desperation, took his own life. So great was his popularity that "all Madrid turned out to his funeral." Among Larra's published works are 'El dogma de los hombres libres' (translation); the following dramas, translated or adapted, 'Julia'; 'Una imprudencia'; 'Don Juan of Austria'; 'Felipe'; 'Roberto Dillon'; 'Siempre'; 'Tu amor o la muerte'; 'Partir á tiempo'; 'Un desafio'; 'Un rapto' (operetta); 'El retrato de Shakespeare.' His original drama, 'El conde de Fernan Gonzalez,' met with some success. A complete edition of Larra's works was published by Montaner and Simon, Barcelona.

LARRABEE, lăr'ra-bē, **William Clark,** American Methodist Episcopal clergyman and educator: b. Cape Elizabeth, Me., 1802; d. 1859. He was principal of Methodist academies at Cazenovia, N. Y. (1831–35), and Kent's Hill, Me., and in 1837 was a member of the Maine Geological Survey. In 1840 he was appointed professor of mathematics and natural science in Indiana Asbury (now De Pauw) University, and in 1852–54 and 1856 was superintendent of public instruction in Indiana. He worked efficiently toward the improvement of educational methods in his denomination. Among the works published by him are 'Scientific Evidences of Natural and Revealed Religion' (1850); 'Wesley and his Co-laborers' (1851); 'Asbury and his Co-laborers' (1853); and 'Rosabower' (1854), a collection of articles written for the *Ladies' Repository.*

LARRAMENDI, lăr'ra-mĕn'dē, **Manuel de,** Spanish Jesuit scholar: b. Audoain, about 1690; d. Loyola, about 1750. He was educated at Bilbao and was professor of theology at Valencia, Valladolid and Salamanca. After serving for some years at court as father confessor to the queen dowager, Maria Anna, he, in 1733, retired and devoted himself to study and writing. Author of 'De la antiguedad y universalidad del vascuence en Espana' (1728); 'El imposible vencido; arte de la lengua vascougada' (1729); 'Discurso histórico sobre la antiqua y hermosa cantabria' (1736); 'Diccionario trilingüe, castellano, vascuence y latino' (1745).

LARREY, lăr'rā, **Dominique Jean,** BARON, French military surgeon: b. Baudéan, near Bagneres-de-Bigorre, July 1766; d. Lyons, 1842. He studied medicine at the hospitals Hôtel Dieu and Hôtel des Invalides, and visited America before entering the French army in 1793 as surgeon in the German and Spanish campaigns. He was with Napoleon in Italy and again in Egypt, was created a baron and pensioned in 1810. He continued in service and in 1842 was inspector of military hospitals in Algeria. Larrey originated the *ambulance volante* and was noted for his humanity as well as possessing a high scientific reputation. He became known as "la Providence du Soldat." Author of 'Mémoires chirurgie militaire et campagnes' (4 vols., 1812–17); 'Relation des voyages et des campagnes de 1815 à 1840' (1840); 'Chinique chirurgicale' (5 vols., 1830–36); 'Recueil de mémoires de chirurgie' (1821), etc. He was also author of many important scientific papers.

LARS, lärz, Roman tutelary deities. Lars is an Anglicized plural, derived from the Latin, Lar, singular of *Lares* (pron. la-raz). Lares occurs on old Italian monuments beside Lares, an older form of the same word. Attempts have been made to identify Lares or its singular Lar with an Etruscan word, Lar, Larth, Larthi or Larthia, common on sepulchral inscriptions, equivalent to the English "lord" or "lady," "king" or "hero"; and possibly akin to another Tyrrhenian word Laran, name of the Etruscan god of war. But this attempt has not met with general favor. In Döllinger's opinion the Lars were deified ancestors, or souls of men, personifying the vital powers, and so assure the duration of a family, over whom their protection was supposed to extend. Wissowa, on the contrary, holds the Lars to have been originally protecting spirits of lots of arable land, above which rose shrines at those spots (*compita*) where the paths bounding such lands met those of another's holding. Wissowa rejects therefore the older idea of deified progenitors. Holding, as he does, that the Lars were originally gods of the cultivated fields, thence he derived them, claiming that from such agrarian status they later appeared within the Roman home.

Some, looking upon the Lars as earthly beings, discern a distinction thus between them and the Manes on one hand, and between them and the Penates on another. Such as perceive this distinction regard the Manes as infernal spirits; and say the Romans regarded the Penates as heavenly. Yet all authorities agree that Manes, Penates and Lars were regarded as guardian spirits by those who worshipped them.

From very early times a distinction existed between private and public Lars. The Lars domestici (private Lares of the home) were worshipped by the Roman household, and by the family alone. One of those household gods, the Lars familiaris, who accompanied the family whenever the residence was changed, was conceived of as the very centre of the household cultus. One view regards the Lares do-

mestici as souls of virtuous ancestors, who (according to the Roman idea) were set free from the realm of shadows by Acherontic rites; exalted into deities; which thereupon became protectors over their progeny, as household gods.

The Lars publici (public lars), enjoyed a wider sphere worship, and received particular names from the place over which their influence was supposed by the Romans to extend. Among these may be mentioned (1) Lares compitales, originally two in number, the mythic sons of Mercurius and Lara (or Larunda), guardian spirits of the cross-roads, where their shrines were erected, and in whose honor an annual festival, the *Compitalia* or the *Laralia* was held, the celebration itself falling in the month of December, a short time after the observance of the Saturnalia. It was not alone the cross-roads, but also the whole neighboring district, town and country, which felt and acknowledged the divinity and the power of the Lares compitales of their respective localities. (2) Lares Urbani, presided over cities. (3) Lares præstites originally tutelaries of the public common; finally guardians of the state. On the Via Sacra near the Palatine Hill, they had a temple and an altar. On coins they appear as the figure of a young man, wearing a chlamys, holding a spear, seated with a dog, symbol of vigilance. (4) Lares viales, of the roads, protecting genii of travelers. (5) Lares permarini, of the sea. (6) Lares rustici, of the country. (7) Lares hostilii, who guarded the state from enemies. The Lares grundules, too, should not be omitted. Their worship was connected with that of the white Sow of Alba Longa and its 30 young. Opposed to the Lares, who were peaceful, happy spirits of the dead, were the Larvæ, bearing a name which betrays its connection with the Latin word Lar just as the parallel word form "arvum" or "arvas" betrays its affinity with the Latin word "arare." These Larvæ, unlike the Lars, were uncanny and disquieting apparitions, as were likewise those ghost-like spectres, which the Roman knew as Lemures.

The Lars were worshipped daily in the Roman home, particular honors being paid them on the Kalends, the Nones and the Ides, of the Roman month. Originally each household had only a single Lar; and the shrine, a small domestic chapel, sheltering an image of the good spirit, was kept in each home,— the Roman gave this shrine the name of Ædicula or Lararium. The image of the god was sometimes of stone, of wood, of metal, in the last case, sometimes even of silver.

In early times the Lar stood in the Atrium; but later, when the family hearth was removed, it was placed elsewhere in the Roman home. At home a Roman felt himself surrounded by invisible friends and guardians, and these sentiments found expression in festive gatherings, at which the Lararium was thrown wide open, and the exposed Lar garlanded about with flowers. Every morning a prayer was made to the idol, and at each meal offerings of food and of drink were set before him. Then a part of the offering was placed on the hearth and finally taken up and shaken into the flames. Whenever a son of the family assumed the toga virilis; whenever the birthday of the head of the family recurred; whenever a new bride entered into the family circle; or whenever the festival of the Caristia in memory of the deceased was celebrated, on these and on the occasion of every other event of importance to a Roman family, special offering and sacrifice were made to the Lar. He (for, as the Romans conceived this idol, he was an animated being) was on such occasions crowned with wreaths of flowers; cakes and honey, wine and incense, and swine,— all were laid before him. The worship of the Lares persisted throughout the Roman pagan period, changing its character considerably as time went on; and its hold upon the Roman soul appears to have been such, that long after the inception of Christianity we hear of a Roman emperor, Alexander Severus, who numbered among his household gods, besides images of Alexander of Macedon, and Abraham, a figure, even the Lar of Jesus Christ. The Lar was represented variously. Sometimes as a youth, his head covered by a hat, with a traveler's stave in one hand, and accompanied by a dog. Again, we find the Lar figured as a youth: in short, high-girt tunic (symbolic of readiness to serve); he holds a rhyton (drinking horn) in one hand and carries a patera (cup) in the other. Witness to domestic happiness or misfortune, the Lar hallowed every domestic occurrence; his presence rendering every Roman home, as it were, a sacred temple. "No other nation," remarks one student of comparative religion, "except the Chinese, have carried the religion of the home so far" as have the Romans in their worship of the Lares.

LARSSON, lär'sŏn, **Carl Olaf,** Swedish painter: b. Stockholm, 28 May 1853. He studied in Stockholm and in Paris. After some ambitious early attempts he engaged in illustrating, gaining for himself the title of the "Swedish Doré." He then took up water-color painting and in the spring of 1883 he exhibited at the Paris Salon two water-colors which won a medal. He was from the first especially happy in his handling of colors, his work being spirited and vigorous and full of gaiety and charm. While he is credited with a French vivacity, the Scandinavian point of view is clearly expressed. He excels in outdoor subjects and in pictures of home life. He has also distinguished himself as a mural painter as well as in the field of water-color and oil painting. He is an earnest advocate of maintaining the national type of dress and coloring, pleading for the so-called "gaudy peasant colors that are needed contrasts to the ice and snow" of his native land. He executed the illustrations for Rydberg's 'Singoalla' and the mural paintings in the Fürstenberg Gallery and the National Museum, Stockholm.

LARVA, the young of an animal, when it differs from its parents in form and manner of life. In most invertebrates and in some of the lower vertebrates, the animal hatched from the egg is so different from the adult that in many cases the relationship was long unsuspected by naturalists, and the little creatures were given names as separate beings,— *zoëa, nauplius,* etc., now applied to the forms of larvæ they represent. These larvæ may grow by imperceptible degrees into the stature and likeness of the adult; or they may pass by comparatively sudden changes through a series of more or less

different forms, until finally the adult form is reached and retained. In the latter case the development is said to be by metamorphosis (q.v.), most completely and familiarly manifested by insects. Whatever the method, the course of larval growth in its successive stages recalls the phylogeny of its race — that is, the course of its evolution in history. Thus each of the various phases of the larval life of any of

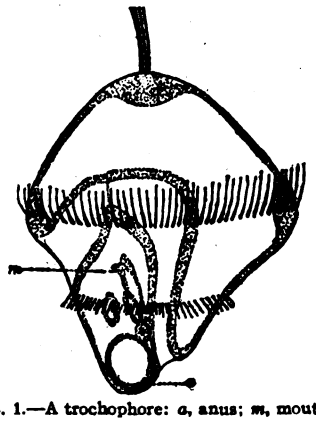

FIG. 1.—A trochophore: *a*, anus; *m*, mouth.

the lower animals, like the fœtal life of embryos of the higher ranks, indicates probable ancestral forms. Some of the most remarkable larvæ may be mentioned. Among the marine annelids a larva known as the *trochophore* or *trochosphere* (Fig. 1) is common. It has a short compact body, traversed by the alimentary canal, and has one or more bands of cilia around the body and a sensory patch at the top of the head. By feeding, this larva grows, the increase being chiefly in length, and with this increase, the joining or metamerism of the body, so noticeable in the adult, appears. Other worms have different types of larvæ, among them the *pilidium* of the nemertines (Fig. 2), shaped somewhat like a chapeau with enormous ear lappets. Between these is the mouth which leads to a large blind sac, the

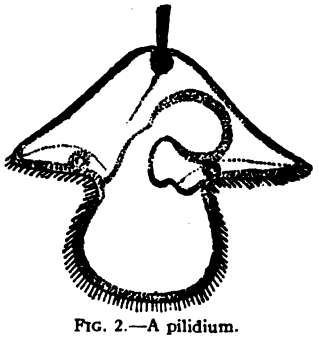

FIG. 2.—A pilidium.

stomach of the worm. The worm itself develops inside the pilidium and later escapes from it to continue its existence, leaving the rest to die.

Among the mollusks larvæ like the trochophore occur, and it is the existence of these larvæ which leads naturalists to think that annelids and mollusks, so different in the adult, had a common ancestry. Later, with the appearance of molluscan characters, a larva known as the *veliger* may appear. This is characterized by a large disk on the top of the head, which serves for a time as a swimming organ and is later lost.

All of the lower and some of the higher crustacea pass through a so-called *nauplius* stage (Fig. 3). The adult crustacean consists of several segments, but the nauplius is without joints, has a single eye, a straight alimentary canal, the mouth being overhung by an enormous upper lip, and three pairs of appendages, which later became changed into the two pairs of antennæ and the mandibles of the adult. The first pair of the nauplian appendages are

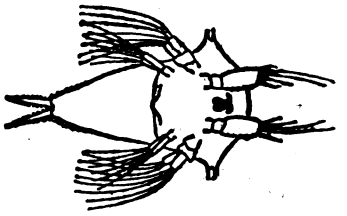

FIG. 3.—Nauplius of Sacculina.

simple and apparently are only sensory, while the two remaining pairs are two-branched, and serve as swimming organs, the basal portions being also used as jaws to force food into the mouth which lies between them. In the higher crustacea two other and better developed larvæ known as the *zoëa* and *megalops* may appear.

Possibly the most remarkable larvæ occur among the echinoderms. These forms, exemplified by the starfish and sea-urchin, are noticeable for their radial symmetry, but in the larvæ, of which there are several distinct types, not a trace of a radial arrangement of parts can be found. They are rather markedly bilaterally symmetrical, with well-marked dorsal and ventral surfaces, which, however, do not correspond with the upper and lower surfaces

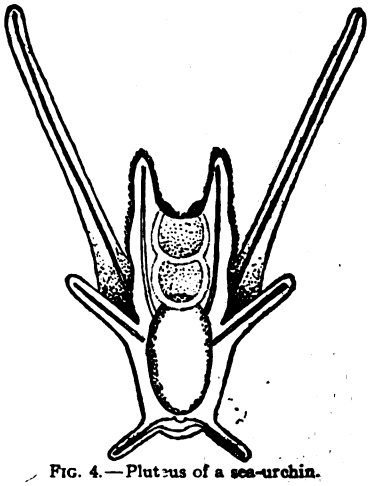

FIG. 4.—Pluteus of a sea-urchin.

of the adult. Some of these larvæ are more or less barrel-shaped, but in others, as in the *pluteus* (Fig. 4) and *bipinnaria* (Fig. 5), the body is drawn out into a number of processes, soft and flexible in the latter, but stiffened in the pluteus by internal calcareous rods. The starfish or sea-urchin later arises on one

side of this larva, the processes are absorbed and the radial arrangement is superimposed upon the bilateral features in the adult, without, however, completely obliterating them.

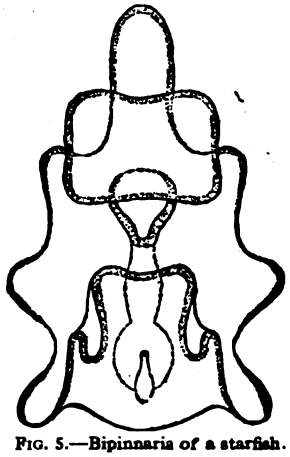

FIG. 5.—Bipinnaria of a starfish.

The larval forms of insects vary greatly both in their form and in the completeness of their metamorphosis. They may be divided into two classes, the *cruciform* and the *campodeaform*. The former include those which are worm-like, such as the caterpillars (q.v.) of moths and butterflies, the grubs of beetles, the maggots of flies and the like. They are the most numerous and conspicuous forms, and are active and voracious, and do nearly all the damage to be attributed to injurious insects. The campodeaform larvæ are those which nearly resemble the parents, such as the nymphs of the dragon-fly and related groups. The second stage of larval life among insects is a very different existence, usually stationary and quiescent, and is called the *pupa stage* (see PUPA). Some larvæ among insects and elsewhere may breed,—a phase of reproduction called pædogenesis see PARTHENOGENESIS.

The value of the different forms and habits of life assumed by animals in passing through the larval stage or stages is that it tends to prevent the extinction of the species, since if at any moment all the adults were swept out of existence, the young living in a different station would continue to represent and revive the species. "This law is seen to hold good among the insects," as Packard points out, "where many species are represented in the winter-time by the egg alone, others by the caterpillar, others by the chrysalis, while still others hibernate as imagoes. Again, in the marine species, the free-swimming young are borne about by the ocean and tidal currents, and in this what in adult life are the most sedentary forms become widely distributed from coast to coast and from sea to sea." On the other hand, the larval forms of fixed marine animals serve as food for fishes, especially young fishes and numerous invertebrates, which, without this resource, would starve; and larvæ of insects are the principal resource for food of birds in the breeding season, when all the small, inland birds must feed their nestlings on caterpillars and grubs, for the most part, even when they are seed-eaters as adults. Certain larvæ enter extensively into the food-supply of many mammals, and are even eaten, or become otherwise useful to man. Some are artificially cultivated for his service, the silk-worms, for an example.

Among vertebrates larvæ are rare, and appear only in the lower forms, those of the lamprey (*Ammocœtes*), of eels (*Leptocephali*), of certain salamanders (*axolotls*), and of frogs (tadpoles), being the most noticeable.

LARVÆ, also **LEMURE,** in Roman mythology ghosts conceived as the souls of the dead revisiting earth at night with harmful intent. They were exorcised by the head of the household in a ceremonial ritual held at midnight 9, 11 and 13 May, which comprised a festival called "lemuralia" or "lemuria," and at which games were played with other suitable observations. Later the term came to mean supernatural monsters or goblins and sometimes the souls of criminals.

LARYNGISMUS (lăr-ĭn-jĭs'mŭs) **STRIDULUS.** Laryngismus is spasm of the glottis, causing contraction or closure of the opening; laryngismus stridulus (also called Kopp's asthma, Millar's asthma, etc.), is spasm of the glottis usually associated with some disease, especially with the common ailment of children known as rickets.

LARYNGITIS, lăr-ĭn-jī'tĭs. See NOSE AND THROAT, DISEASES OF.

LARYNGOSCOPE, lā-rĭng'gō-skōp, an instrument used for examining the larynx. It consists of a little plane mirror attached to a stem, about four inches long, at an angle of 120 degrees or more. This mirror is introduced into the mouth of the person to be examined, and held near the back of the throat, while a strong light is thrown upon it from a reflector worn upon the forehead, or held between the teeth of the examiner. In the strong light of the sun, or of an argand burner, the light thrown from the reflector is concentrated upon the laryngeal mirror, which lights up the parts to be examined, while it at the same time reflects the images of these parts into the eye of the examiner. In this way the mechanism of the human voice may be studied, and what is of considerable importance, disease if present can be readily detected, and the fitting remedy applied. The chief merit of introducing this instrument in a very complete form into medical practice must be assigned to Drs. Turck of Vienna and Czermak of Prague, although Garcia, Liston, Babington, Avery and others used a reflecting mirror to explore the recesses of the throat. It was not until the two German physiologists took up the subject in 1857 that the benefits arising from its use were fully recognized. A somewhat similar arrangement is used in examining the posterior nasal cavities, a smaller mirror is used with its face turned upward.

LARYNGOTOMY, lăr-ĭng-gŏt'ō-mĭ. See BRONCHOTOMY.

LARYNX, the collection of structures by which the voice is partially produced, situated at the upper part of the trachea or windpipe. It is formed mainly by two pieces of cartilage, the thyroid above and the cricoid, which is situated below. The thyroid is formed of two extended wings like plates meeting at the

middle line in front and making a prominence known as Adam's apple; above and from the sides two horns project upward, and are connected by bands to the hyoid bone, from which the larynx is suspended. The thyroid cartilage rests and is movable upon the cricoid, moving backward or forward, but not from side to side. The cricoid cartilage is shaped like a signet-ring (Greek *krikos*, a ring), the narrow part of the ring being in front. The cricoid carries, perched on its upper edge behind, the arytenoid cartilages, which are of great importance in the production of the voice. These various cartilages form a framework upon which muscles and mucous membranes are disposed. The mucous membrane which lines the larynx is thrown into various folds. These folds about 15 mm. long in man and 11 mm. in woman are called the true vocal cords, and by their movements the voice is produced. Projecting toward the middle they form a chink,

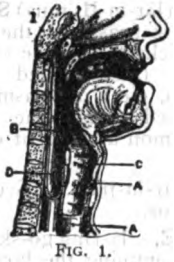

FIG. 1. Larynx internally.

FIG. 2. **Larynx externally.**

which is called the glottis. By the contraction of various muscles this chink can be so brought together that the air forced through it throw the edges of the membrane into vibration and so produce sounds. Variations in the form of the chink will effect changes in the sound. Thus the production of voice is the same as in musical instruments, the arrangement of the many complicated muscles in the larynx being such as to produce (1) the vibratory sounds, (2) to regulate the sound, (3) to vary the pitch, and (4) to determine the quality of the sound. While the voice is produced in the larynx, it is modified by the rest of the respiratory passages. (See VOICE). In the act of swallowing, the glottis is covered by a cartilaginous plate called the epiglottis. In the accompanying cut, Fig. 1, shows C, the larynx internally, B being the epiglottis situated above the glottis or entrance to the larynx, A A the trachea, and D the œsophagus or gullet. In Fig. 2, J is the trachea, B the hyoid bone, N N the thyreo-hyoid membrane, O the thyreo-hyoid ligament, G the thyroid cartilage, R the cricoid cartilage, P the crico-thyroid ligament. See NOSE AND THROAT.

LAS CASAS. See CASAS, BARTOLOMÉ DE LAS.

LAS CASES, Emmanuel Augustin Dieudonné Marin Joseph, MARQUIS, ĕm-män-oo-ĕl ō-güs-tăñ dē-ē-dŏn-nā mä-răñ zhō-zĕf läs käs, French historian, one of the companions of Napoleon at Saint Helena: b. Chateau Las Cases, near Revel, 1766; d. Passy-sur-Seine, 15 May 1842. He was educated at the school of the Oratorians in Vendôme, and at the military and naval schools of Paris, and when the Revolution broke out took part with the Royalists. After the defeat of the Prussians in Champagne he fled to London, where he lived as a teacher. While here he executed his 'Atlas historique et géographique' (1802), which he published under the name of Le Sage. When the *émigrés* were recalled by Napoleon, Las Cases returned to Paris. Having entered the army of Bernadotte (1809) he gained the favor of Napoleon, who in 1810 made him chamberlain and count of the empire. After the disasters of Leipzig and Moscow, Las Cases commanded the 10th legion of the National Guard. In 1814 he refused to assent to the request for Napoleon's abdication, and went to England, whence he subsequently sent in his adhesion to the Bourbons. After the return from Elba he went back to France, and after the final defeat of the emperor at Waterloo followed him to Saint Helena. Here with his son he devoted himself to the care of Napoleon, and passed his evenings in recording the emperor's remarks, which were subsequently published in his 'Mémorial de Sainte Hélène' (1822–23). Having written a letter to Lucien Bonaparte commenting freely on the treatment to which Napoleon was subjected, he was arrested, 25 Nov. 1816, sent to the Cape of Good Hope, presently taken to England, thence conveyed to the Continent and to Frankfort-on-the-Main, where he at last received his liberty after 13 months' captivity. He was not allowed to return to France until the death of Napoleon. In the reign of Louis Philippe he was elected in 1831 and 1839 to the Chamber of Deputies, taking his seat at the extreme left, or with the ultra-opposition. He wrote, in addition to the works above mentioned, his own life, 'Mémoires d'E. A. D., Comte de Las Cases' (1818).

LAS CRUCES, läs kroo'sĕs, N. Mex., village and county-seat of Dona Ana County, near the Rio Grande, 43 miles northwest of El Paso, Tex., on the Atchison, Topeka and Santa Fe Railroad. It is situated in a fruit-growing and agricultural region and has important mining industries in silver, copper, lead and zinc. The State College of Agriculture and Mechanics' Art is located here, and the town owns its waterworks. Pop. 3,386.

LAS PALMAS, läs päl'mas, Canárias, the chief town of Grand Canary Island and capital of the archipelago, the third port of Spain and first in point of tonnage, is situated in the northeast of the island, 52 miles from Teneriffe and 262 from Madeira. It is an attractive place, beautifully situated in a fertile valley and contains a fine town-hall and a museum richer in aboriginal remains than any other in the world. Besides the cathedral of Saint Cristóbal it has a number of quaint churches; in the church of San Antonio Abad, but in an earlier building, Columbus attended Mass before setting out for the discovery of America in 1492. The city has been the seat of a bishopric since 1485. The principal industries are fishing and shipbuilding and the manufacture of woolen goods, hats, leather and glass. Potatoes, bananas and tomatoes, almonds and sugar are among the exports. Steamer services are maintained with the principal European ports, and with the West Coast of Africa, the Cape, Australia and New Zealand and America. Pop. 62,886.

LAS VEGAS, läs vā'gäs, N. Mex., city and county-seat of San Miguel County, on the Gallinas River, a branch of the Pecos, and on the Atchison, Topeka and Santa Fe Railroad, 83 miles east of Santa Fe. There are here practically two towns, the old Mexican settlement, which is the county-seat, and the modern city lying to the east, first known as East Las Vegas, but incorporated in 1888 and chartered in 1896 as the city of Las Vegas. The New Mexico Normal University and the New Mexico Insane Asylum are located here, and there is a public library, sanitarium, flour-mills, carriage and wagon shops, railroad machine shops, planing-mills, foundries and machine shop, tie-preserving work, lumber and brick yards, candy and cigar factories, a brewery, etc. The surrounding county is devoted to agriculture and stock raising and Las Vegas is an important wool market. The health resort known as Las Vegas Hot Springs is located six miles distant, at an elevation of 6,767 feet above the sea. It is noted for its fine scenery and equable climate and for its numerous medicinal springs, with temperatures ranging from 75° to 160° F. Pop. about 8,000.

LASAULX, lą'zō, **Ernst** von, German archæologist: b. Coblenz, 16 March 1805; d. Munich, 9 May 1861. He studied at Bonn and Munich, traveled through Austria, Italy, Greece and Palestine, and took his degree at Kiel in 1835. He was appointed professor of philology and æsthetics at Munich in 1844, but his influence having caused the downfall of the Minister Abel, he was dismissed from the university by King Louis 28 Feb. 1847. He was elected to the National Assembly at Frankfort in 1848, and on 15 March 1849 he was reinstated at Munich by King Maximilian II. He served in the Bavarian House of Deputies from 1849 until his death. He was magnetic as a teacher and of a mystical temperament. His writings deal largely with parallels between the Christian religion and the Hellenic philosophy. He wrote 'Geschichte und Philosophie der ehe bei den Griechen' (1852); 'Der Untergang des Hellenismus' (1854); 'Des Sokrates Leben' (1857), etc.

LASCARIS, lą'ską'rĭz, **Constantine,** Greek scholar and grammarian: b. Constantinople, about 1434; d. Messina, about 1500. He came of a Bithynian noble family, which had among its members three emperors of Nicæa in the 13th century. The fall of Constantinople in 1453 forced him to flee to Corfu. He later went to Italy where he was appointed Greek tutor to Hippolita, daughter of the Duke of Milan. He taught in Rome where he gained the friendship of Cardinal Bessarion; went to Naples at the request of Ferdinand II and there delivered a course of lectures on Greece; he also taught in Spain, and for the last 35 years of his life he taught Greek at Messina. Among his pupils there was the future Cardinal Bembo. He collected and copied many manuscripts, which he willed to the Senate of Messina, and which were taken to Spain in 1712 and placed in the National Library in Madrid. His 'Grammatica Græca, sive Compendium octo Orationes Partium' (1476) was the first work printed in the Greek language. Consult Villemain, A., 'Lascaris on les Grecs en XVème Siècle' (1825).

LASCARIS, Theodore I, emperor of Nicæa; d. 1222. He came of a noble Byzantine family, was son-in-law of Alexander III and was distinguished by his exploits in defeating the Latin invasion of Constantinople in 1203–04. After the fall of the city he went to Nicæa and there founded a new Byzantine state which became a rallying point for his countrymen and of which he became emperor in 1206. He maintained his empire against the aggressions of the Latin Emperor Henry and Alexius Comnenus of Trebizond, carried successful war into the enemy's territory and in 1210 he captured Alexius and wrested considerable territory from the Turks. His daughter, Irene Lascarius, married his successor, John Vatatzes, and became the mother of Theodore II, who reigned from 1254–58, and recovered Thrace from the Bulgarians in 1255–56.

LASK, Russian Poland, city in the government of Piotrkow, 82 miles southwest of Warsaw and 12 miles southwest of Lodz, on the Newolka River and on the Warsaw-Kalisz Railroad. It has important textile manufactories. It lay within the district overrun by the Central Empires in the European War and was the scene of much sanguinary fighting. Pop. over 4,000.

LASKER, läs'kĕr, **Eduard,** German politician: b. Jarotschin, Posen, 14 Oct. 1829; d. New York, 5 Jan. 1884. He was of Jewish descent, and after being educated at the universities of Breslau and Berlin obtained a post in the Municipal Court (1851). He spent three years in England in the study of political conditions there. On his return he entered the government service and was elected in 1865 to the Lower House. He sat subsequently in the Constituent North German Diet, and up to the time of his death in the North German and German Diet for the district of Saxe-Meiningen. He was associated with the "Fortschrittspartei" or Progressives, and in 1866 assisted in forming the National Liberal party, from which he later withdrew in opposition to Bismarck's economic policy. He took an active part in the civil consolidation of the German Empire. On his death in New York the House of Representatives passed a vote of condolence and transmitted it for presentation through the authorized channels to the German Reichstag, but the message was peremptorily returned by Bismarck through the German Embassy at Washington. Among his writings is 'Zur Verfassungsgeschichte Preussens' (1874). Consult Bamberger, 'Eduard Lasker' (Leipzig 1884).

LASKER, Emmanuel, German chess champion: b. Berlinchen, 24 Dec. 1868. He chose mathematics as a profession, but eventually turned his attention to chess, playing with such success that since 1892 he has triumphed over all competitors both in tournaments and duel matches. He has outplayed, without losing a single game, Blackburn, Bird and F. Mieses of Leipzig. In 1892 he won the first prize in the London tournament, and in the International tournament at New York in 1894 beat all the best players, including Steinitz, champion of the world. A decisive match was arranged between him and Steinitz at Moscow and came

off December 1896 and January 1897. Lasker won by 10 games to 2, 5 being drawn. In 1902 he was appointed assistant lecturer on mathematics at Victoria University, Manchester. He had arranged a match with the celebrated Russian player, Rubenstein, for August 1914, which was canceled on the outbreak of war. He founded 'Lasker's Chess Magazine' in 1904, and is the author of 'Common Sense in Chess.'

LASO DE LA VEGA, lä'sō dā lạ vā'gạ, **Garci,** or **GARCILASO DE LA VEGA,** Spanish poet and soldier: b. Toledo, 6 Feb. 1504; d. Nice, 14 Oct. 1536. He entered the army, served under Emperor Charles V against the French and the Turks and received his death wound at the assault upon a castle near Fréjus when but 32 years of age. His reputation as a poet, however, was already established. He was an intimate friend of the poet Boscan, with whom he adapted the Italian verse forms to Spanish. Comparatively little of his poetry remains. There are a few early villancicos in the native Spanish manner; three eglogas, two elegias, five canciones, and epistola in blank verse and 37 or 38 sonnets. His work bears no trace of the camp-life and military scenes among which his life was passed, but is marked by a tender melancholy. There are traces of the influence of the Italian poets in his manner and some of his grace is doubtless due to Horace. His poetry was printed 'Works' (1544) with Boscan's poetry reprinted (New York 1903). Consult Fitzmaurice-Kelly, J., 'Bibliographie de l'Histoire de la Littérature Espagnole' (Paris 1913).

LASSA, läs'sä. See LHASA.

LASSALLE, lä-sāl', **Ferdinand,** German Socialist: b. Breslau, 11 April 1825; d. Geneva, 28 Aug. 1864. He studied at the universities of Breslau and Berlin, and while there gained the friendship of such men as Böckh and Humboldt. Toward the end of 1844 he met at Berlin the Countess Hatzfeldt, who had contracted an unfortunate marriage, conducted her suit for separation and brought it to a successful issue. He first made himself known as a leader during the democratic troubles of 1848, and was imprisoned for a year for alleged inciting to revolt. In 1858 he produced a work on the philosophy of Heraclitus and in 1861 published his 'System of Acquired Rights.' Thereafter he proceeded to organize the working classes, which caused the government to accuse him of sedition, and he was imprisoned for four months. He was at first allied with the party of the Progressists, but in 1862 he broke with them; in 1863 he issued his famous 'Offenes Antwortschreiben,' a brochure in which he sets forth his working-class program, and later in the same year founded a Labor Union (Allgemeiner deutscher Arbeiterverein), and began the Socialist propaganda in Germany. In 1864 he published an attack on the Manchester school of economists under the title 'Herr Bastiat-Schultze von Delitzsch der ökonomische Julian, oder Kapital und Arbeit.' In the summer of the same year he was killed in a duel occasioned by a love affair. One of the chief points in his economic theory was that the "iron law of wages" tended always to reduce wages to the mere cost of living; to remedy this he proposed associations of the working classes in productive enterprises with capital furnished by the state. He left no such elaborate statement of his views of the nature of capital and capitalistic society as did Marx; nor did he influence the labor movement so much through his theoretical teachings as through his power and success as an organizer. Consult Bernstein, 'Lassalle as a Social Reformer,' and Dawson, 'German Socialism and Lassalle.'

LASSBERG, läs'bėrk, **Joseph Maria Christoph** VON, BARON (MEISTER SEPP VON EPPISHUSEN), German antiquary: b. Donaueschingen, 10 April 1770; d. 15 March 1855. He studied at Strassburg and at Freiberg, specializing in law, economics and forestry. He entered the service of Prince von Fürstenberg in 1789, became chief warden of the forests in 1804, and under the regency of Princess Elizabeth for her son Karl Egon he was Privy Chancellor in 1806–17. He retired at the close of the regency and for the remainder of his life studied old German literature. He collected a library of 12,000 volumes and 273 rare manuscripts, one of which was the Hohenems manuscript "C" of the codex of the 'Nibelungenlied.' His library was bequeathed to the town of Donaueschingen. He edited under his pseudonym many mediæval German poems. Among them are 'Ein schön und anmutig Gedicht, der Littower' (1826); 'Eggenlied' (1832); 'Liedersaal' (4 vols., 1820–25), etc. Consult Pfeiffer, F., 'Briefwechsel zwischen Lassberg und uhland' (Vienna 1870).

LASSELL, lạ-sėl', **William,** English astronomer: b. Lancashire, 18 June 1799; d. 5 Oct. 1880. His early education was scanty, and while serving a mercantile apprenticeship at Liverpool he made telescopes for himself, and in a private observatory which he built near that city he began his astronomical work, about 1820, and continued it until 1861. There he built and mounted reflecting telescopes equatorially, the first of the kind in use, and also invented a method of polishing the specula. With his own telescope he discovered the satellite of Neptune in 1847, observed the eighth satellite of Saturn in 1848, and in 1851 discovered two new satellites of Uranus. In 1861, at Valetta, on the island of Malta, he mounted equatorially a reflecting telescope, and at that place until 1865 he made observations, also describing new nebulæ and correcting many of his former results. In 1865 he returned to England, built an observatory near Maidenhead and there spent the remainder of his life.

LASSEN, läs'sėn, **Christian,** Norwegian philologist and linguist: b. Bergen, Norway, 22 Oct. 1800; d. Bonn, Prussia, 8 May 1876. He studied at Christiania, Heidelberg and Bonn, at which latter university he became in 1830 extraordinary and in 1849 ordinary professor. With Eugène Burnouf he deciphered many Pali MSS., and the result of their labors was published by the Asiatic Society in an 'Essay on the Pali or Sacred Language from the Peninsula beyond the Ganges.' He published with Schlegel the 'Ramayana' and the 'Hitopadesa,' and was for many years editor of the *Zeitschrift für die Kunde des Morgenlandes.* His works, which are numerous and valuable, relate to a variety of Oriental languages and ancient history, embracing, among other subjects, translations from the Hindu philosophy, the history

of Bactriana, Cabool and India, and cuneiform inscriptions.

LASSEN, Eduard, Danish composer: b. Copenhagen, 13 April 1830; d. Weimar, 15 Jan. 1904. He began his education at Brussels and 1851 won the «Prix de Rome.» Through Liszt his opera 'Landgraf Ludwigs Brautfahrt' was produced in Weimar (1875), where he was made the following year «Kapellmeister» to the court. He retired in 1895. Of his compositions those which are most remarkable for talent and artistic sincerity are the operas 'Frauenlob' (1860); 'Le Captif' (1868). He wrote two symphonies and the music for Sophocles' 'Œdipus' and Goethe's 'Faust,' as well as numerous songs, etc.

LASSEN PEAK, Cal., volcanic peak of the Sierra Nevadas, on the boundaries between Plumas, Shasta, Lassen and Tehama counties, about 135 miles north of Sacramento, in latitude 40° 28′ north. It was supposed to be extinct, but on 30 May 1914 clouds of steam and ash issued from the summit, and on 8 June and 18 July 1914 a column of steam rose to a height of 10,000 feet above the crest. The activity was credited to the great earthquake preceding it in Alaska and California. Its ancient lava beds are of vast extent and there are boiling springs and hot mud lakes at the base of the mountain. Altitude, 10,577 feet.

LASSERRE, lą'sār, **Paul Joseph Henri de Monzie,** French religious writer: b. Carlux, 25 Feb. 1828; d. 1900. He studied law at Paris and in 1851 created a sensation by the publication on 2 December of 'L'Opinion et le coup d'état,' written in favor of the *coup d'etat.* He was active in behalf of Poland, gaining the Pope's condemnation of the massacres of Warsaw; gained wide attention by his strictness on Renan's 'Vie de Jésus'; and was later noted for his writings on the Lourdes pilgrimage, where he stated that he had received benefit, and over which he had a bitter controversy with Zola. Author of 'L'Esprit et la Chair' (1859); 'La Pologne et la Catholicité' (1861); 'L'Evangile selon Renan' (1862); 'Notre-Dame de Lourdes' (1869); 'Episodes Miraculeux de Lourdes' (1883), etc.

LASSO, a long strong thong of buffalo-hide, rope or leather, with a running noose at one end, used by ranchmen and hunters. It is thrown in such a way as to fall over the horns or head of the animal, the hunter coiling one end round a high pommel on his saddle. When he makes a successful cast the hunter spurs his horse to its fullest speed, and the horse or other animal is almost strangled or borne to the ground and becomes an easy prey. Instead of a noose a leaden ball may be attached to the end of the thong, which is thrown so as to entangle the legs, neck or horns of the animal to be captured. The lasso has been used in the South American wars: it was employed against the French sentinels by some of the semi-barbarous tribes whom Russia had pressed into her armies during the Crimean War.

LASSO-CELLS, or **STINGING CELLS,** names applied to the cnidocysts of cœlenterates. See NEMATOCYST.

LASSON, lä'sôn, **Adolf,** German scholar: b. Strelitz, Mecklenburg-Strelitz, 12 March 1832. He was educated at the University of Berlin, where he became privat-docent of philosophy in 1877 and honorary professor in 1897. He was greatly influenced by the philosophy of Hegel. Author of 'Baco von Verulams wissenschaftliche Principien' (1860); 'Das Kulturideal und der Krieg' (1863); 'Meister Eckhart der Mystiker' (1868); 'Giordano Bruno' (1872); 'Das Gedächtnis' (1894); 'Der Leib' (1898); 'Aristotelische nikomachische Ethik' (1909), etc.

LASSUS, lą'sŭs', **Jean Baptiste Antoine,** French architect: b. Paris, 19 March 1807; d. Vichy, 15 July 1857. He studied at the École des Beaux-Arts and under Lebas and Labrouste. From Labrouste he imbibed the influences which started him toward the pre-eminence he attained in the 19th century Gothic revival in France. He was engaged with Duban and Viollet-le-Duc in the restoration of Sainte Chapelle in 1840–56, and in 1842 he began with Viollet-le-Duc the restoration of Notre-Dame. He was also engaged in the restoration of Saint-Germain-l'Auxerrois, the cathedral of Moulins and built the church of Saint Nicolas de Nantes as well as other churches and convents throughout the provinces of France. He was a contributor to *Annales archéologiques* and author of 'Monographie de la cathédrale de Chartres' in collaboration with Didron and Amaury Duval (1843); 'Réaction de l'Académie des beaux-arts contre l'art gothique' (1846); annotated 'Album de Villard de Honnecourt' (1858).

LASSUS, Orlandus, or **LASSO, Orlando** (originally ROLAND DELATTRE), German composer: b. Mons, in Hainaut, 1520 or 1530; d. Munich, June 1594. As a composer he was excelled only by Palestrina among musicians of the 16th century. About 1556 he went to Munich as chapel-master to Albert, Duke of Bavaria, and in 1562 became chapel-master, an office which he held till his death. Among his more than 2,000 works are some 60 masses, many madrigals and songs, and the celebrated music for the Seven Penitential Psalms. In the royal library at Munich is the richest collection of his works. His sons published a collection of his motets entitled 'Magnum Opus Musicum' (1604, 17 vols., folio). An edition of his collected works appeared at Leipzig 1893, et seq.

LAST DAYS OF POMPEII, The. Bulwer-Lytton's 'The Last Days of Pompeii,' published in 1834, has as its subject the destruction of Pompeii by fire, water, ashes and lava in the terrible eruption of Mount Vesuvius in the year 79 of the Christian era. The novel was mainly written at Naples near the scene of the ancient calamity in order that all incidents pertaining to it might be completely visualized. Bulwer climbed Mount Vesuvius, studied the excavations of the ruined city and was generally well prepared for the task by his knowledge of the classical literatures. It was his aim to restore the decadent life of Pompeii just before the destruction of the city. He reanimated, as it were, the skeletons found in houses, baths, temples and forum, all of which places he minutely described. These old skeletons, clothed in flesh and blood, became the dramatis personæ of his plot. Most of them were buried in the ruins; but the hero and heroine, Glaucus and Ione, escape by the aid of

Nydia, the Thessalian blind girl, and, being Greeks, retire to Athens. Nydia, hopelessly in love with Glaucus, drowns herself in the sea. Among others who survived is Olinthus, the Christian, who converts Glaucus and Ione to the new religion in which they are supremely happy.

Bulwer's novel annoys the reader of the present day by its stilted style, its melodrama and its sentimentalism; but these and other grave faults cannot blind the critic to the fact that 'The Last Days of Pompeii' is the most successful novel we have dealing with ancient life and manners, so difficult to restore at all. The catastrophe which Bulwer chose for his theme at once interests and appalls; and the last chapters, descriptive of the awful fate that overcame the inhabitants of Pompeii, reach a high level of vivid narration, quite sufficient to keep the novel alive.

WILBUR L. CROSS.

LAST JUDGMENT, The, subject of religious paintings based upon Matt. xxv, 31, et seq., when Christ shall return to judge the world. It was a subject much favored by mediæval artists, some of the greatest religious paintings and frescoes being founded upon the idea. Among them are that by Fra Angelico at the Florence Academy; one by Fra Bartolommeo painted in 1498–99 on the wall of the cloister of Santa Maria Nuova at Florence; Jean Coussin at the Louvre; a fresco by Giotto at Santa Maria dell' Arena, Padua; the fresco by Michelangelo in the Sistine Chapel at the Vatican; by Rubens in the Munich Gallery; by Tintoretto at Santa Maria dell Orto, Venice; the fresco by Peter von Cornelius at Ludwigkirche, Munich.

LAST LETTERS OF JACOB ORTIS, 'Ultime lettere di Jacopo Ortis' (1802), the most significant prose work of the Italian poet, Ugo Foscolo, is an autobiographical novel in epistolary form. Begun in 1798 when the author was a mere boy of 20 the history of this book is a romance in itself. Published in unfinished form in 1799, continued for an impatient editor by the unscrupulous Angelo Sassoli whose unauthorized edition was repudiated by Foscolo when he brought out his true text in 1802, the 'Ultime lettere' shows the influence of Rousseau's 'Nouvelle Héloïse' and still more of Goethe's 'Werther.' Like its German predecessor which antedated it by a quarter of a century, Foscolo's narrative reflects the pessimism, the unhealthy sentimentalism and the excessive morbidness of that period of social and political upheaval. The suicide in 1796 of Girolamo Ortis, a fellow student at the University of Pavia, Foscolo's unhappy love affairs, the Treaty of Campo Formio (17 Oct. 1797) by which Austria acquired Venice and which caused the poet's departure from his adopted state, became the genesis of these letters which so deeply stirred the patriotic ardor of the Italian youth of the succeeding generation. An exile from Venice, Ortis (Foscolo), in a series of letters to his friend Lorenzo (G. B. Niccolini), laments his country's servitude and gradually lays bare his hapless passion for the lovely Teresa, the affianced and later the bride of another. This correspondence runs from October 1797 until March 1799, when the wretched youth stabs himself to death after writing an affecting farewell to Teresa. Such scenes as the meeting between Ortis and the aged poet Parini, the incident of the kiss, the final parting with Teresa and some splendid descriptions of nature, are full of feeling. The language, while not exempt from affectations, is a robust, eloquent and animated poetic prose. Although the intermingling of the patriotic motive with the love idyll weakens the unity of the work, the loss in artistic effectiveness is compensated by the intense passion for liberty that animates Ortis. It is the first modern Italian novel of incontestable merit and the harbinger of the romantic movement in Italy. Consult Martinetti and Antona-Traversi for a critical edition of the text (Saluzzo 1887); Albertazzi, A., 'Il Romanzo' (Milan 1902); Mazzoni, G., 'L'Ottocento' (Milan 1913); Marmoni, E., 'Prose . . . di Ugo Foscolo' (Milan 1913).

ALFRED G. PANARONI.

LAST OF THE MOHICANS, The. 'The Last of the Mohicans' was the second of the Leather-Stocking series which Fenimore Cooper wrote, and it stands second in the order in which these novels present the deeds and emotions of the greatest character American fiction has furnished to the world of the imagination. Perhaps less realistic than 'The Pioneers,' and less poetical than 'The Prairie,' 'The Last of the Mohicans' is still the most representative not only of the series, but of Cooper's romances in general. In this tale Leather-Stocking first reaches his true proportions. 'The Pioneers,' in which he had first appeared, had shown him somewhat hardened by age; only at the end of that book, when Natty, in search of simplicity and perfect freedom, withdraws from the settlements and plunges into the deeper woods, does he make his full appeal. In 'The Last of the Mohicans,' which presents Hawkeye, as he is now called, in the prime of his strength and valor, he has grown nobler as he has grown more remote, more the poet and hero as the world in which he moves has become more wholly his own. Chingachgook has undergone an even greater change. He had been known in 'The Pioneers' as Indian John, a drunken old vagabond who was dignified only by his death. 'The Last of the Mohicans' restores to him his cunning and pride. The purest romance of the story lies in Uncas, the son of Chingachgook, gallant, swift, courteous, a lover for whom there is no hope, the last of his mighty line. Cooper was perfectly willing to admit that Uncas was idealized, like other epic and romantic heroes. It is clear also that Uncas possesses many of the virtues which Rousseau had said are to be found in the state of nature. Romantic idealization, however, and romantic sentiment cannot deprive Uncas of the perennial appeal which youth makes when cut off in the flower. Nor is a book which has added three such personages to fiction to be too lightly dismissed as without power of characterization.

The action and setting of 'The Last of the Mohicans' are on the same high plane as the characters. The forest, in which all the events take place, surrounds them with a changeless majesty which deepens, by contrast, the restless sense of danger. Flight and pursuit,

Cooper's favorite plot-device, fill almost the entire book; two white girls, being escorted from Fort Edward, on the Hudson, to Fort William Henry, on Lake George, are pursued by the hostile savages who infested that region during the French and Indian War; they are captured and, after another desperate pursuit, rescued. The thrilling contest is carried on with every subtle trick known to Magua, the villain, and to Hawkeye and the Mohicans, who are the real heroes of the piece, though there is a conventional lover for one of the conventional girls. Among the most moving moments in fiction is that in which Uncas reveals himself to the Delawares; of all Cooper's climaxes it is the one built up with the greatest skill. The coincidences are occasionally strained and the style is careless, but the narrative force of the book, no matter what its defects, is too compelling for it to be called less than a masterpiece.

CARL VAN DOREN.

LAST ROSE OF SUMMER, The, a famous song by Thomas Moore, published in his 'Irish Melodies.' The air was derived from an old melody, 'The Groves of Blarney.'

LASTMAN, läst'măn, **Pieter,** Dutch painter and engraver: b. Amsterdam, 1580; d. Haarlem, about 1649. He was a pupil of Gerrit Pieterz, and later studied in Rome under Elsheimer. Returning to Amsterdam he established a studio and in 1622 Rembrandt became one of his pupils. He made his reputation as a historical painter. His work is well represented in European galleries. Among them are 'Repose in Egypt' (1608), Rotterdam Museum; 'Ulysses and Nausicaä' (1609), Brunswick Museum; 'Apollo and the Muses,' Cassel Gallery; 'Tobias' (1618), Moltke Collection, Copenhagen; 'Adoration of the Shepherds' (1629), Haarlem Museum; 'Raising of Lazarus' (1632), Hague Museum, etc.

LASUS, Greek poet: b. Hermione, Argolis. He flourished in the early part of the 6th century and lived in Athens in the reign of Hipparchus. He was of the literary and artistic circle Peisistratidæ, a rival of Simonides, and teacher of music and poetry to Pindar. He was considered the inventor of the dithyrambus and did much to perfect it and increase its popularity. He was the author of the first treatise on the theory of music.

LASZLÓ DE LOMBOS, läs'lō dē lôm'bōz, or **VON LANLOS, Philip Alexius,** Hungarian painter: b. Budapest, 1869. He studied at the Industrial Art School and National Drawing School at Budapest, under Liezenmayei at Munich and under Lefebre and Benjamin Constant at Paris. He received gold medals from the Paris Salon in 1899, 1900; and also from Munich, Düsseldorf, Saint Louis and Venice; and the golden placque from the National Salon of Art in Budapest in 1912. He was ennobled by the emperor of Austria in 1912. In 1907 he took up his residence in England. His reputation rests upon his portraits. Among his sitters are Prince Hohenlohe, Pope Leo XIII, King Edward VII, Queen Alexandra, Kaiser Wilhelm II, Theodore Roosevelt, King Alfonso XIII, Queen Victoria of Spain, Lord Roberts and other notables. He has done excellent work in portraying children and his portrait of himself is in the Uffizi, Florence.

LATACUNGA, lä-tä-koon'gä, Ecuador, capital of the province of Leon, 56 miles south of Quito, and one of the oldest towns in the republic and on the railway from Guayaquil and Quito. Owing to its situation on a plain more than 9,120 feet above sea-level, it has an even and temperate climate, and the surrounding country is well adapted to agriculture and cattle-raising; but it is only 25 miles distant from the great volcano, Cotopaxi, and has repeatedly been destroyed by earthquakes. There are manufactures of woolens and cottons, potteries, etc., and pumice stone and saltpetre are worked. A palace of the Incas is still in existence in the vicinity. Latacunga was discovered by the Spaniards in 1534. Pop. estimated at 12,000.

LATAKIA, lä'tą-kē'ą, Syria, seaport town in the vilayet of Beirut, opposite the island of Cyprus and 75 miles north of the town of Tripoli. It was the ancient Laodicea ad Mare, named by Seleucus Nicator in honor of his mother; and in the Roman period it was known as Julia. It was the seat of an ancient bishopric, and at the time of the Crusades was a wealthy city. It came under the rule of Tancred in 1102, but was recaptured by Saladin in 1118. It had a Christian colony which was permitted to build fortifications for its protection but the Christians were banished and their defenses leveled by Sultan Kala'ūn. In the 16th century Laodicea was almost non-existent but the establishment of the tobacco trade in the 17th century gave new life to the town, and tobacco raising is still its chief industry, although it also exports silk, oil, sponges and eggs. Pop. (estimated) 25,000.

LATEAU, lä'tō, **Louise,** Belgian visionary: b. Bois d'Haine, 30 Jan. 1850; d. 25 Aug. 1883. She entered the Third Order of Saint Francis of Assisi and after a vision of Christ which appeared to her in 1868 she was said to be stigmatized with wounds which bled on Fridays, although Belgian medical authorities pronounced the case stigmatic neuropathy. Bishop Dumont of Tournay believed the young woman's case a miracle. When he was later deposed Lateau left the Roman Catholic communion. Consult Rohling, A., 'Louise Lateau, die Stigmatifirte von Bois d'Haine' (1874).

LATENT FAULT or **DEFECT,** legal term used in the law of sales and in personal injury law. In the law of sales a purchaser is guarded against a blemish or defect not apparent or fraudulently concealed at the time of purchase. The seller does not impliedly warrant against latent defects in goods not of his own manufacture, but is bound to disclose latent defects known to him. In the law of injury a lender may be held responsible for damages for an injury incurred by the borrower in the use of a borrowed article whose defects were not made known. However, an employee or third party is not bound to take notice of defects in the article or appliance loaned. If an appliance is hired to another it carries with it an implied guarantee against latent defects; and in case of a carrier every test dictated by the utmost possible care must be made. In English law there is a provision in a bill of lading exempting an owner from liability for damages incurred through latent

or undiscovered defects, such as leakage through a defective rivet in a water-tank, or a defective rivet in the hull, unknown to the owner at time of sailing.

LATERAL MORAINE. See MORAINE.

LATERAN, palace and church at Rome. The name is derived from Plautius Lateranus, head of a rich patrician family whose estates were confiscated by Nero, while he himself was put to death for complicity in the conspiracy of Piso. The palace afterward became an imperial residence, but was given to Pope Melchiades in 312 by Constantine the Great, and thereafter was the residence of the popes for a thousand years. Only fragments of the palace of Constantine remain. Above is a chapel so sacred that none but a pope may officiate at its altar, and none but priests worship within its walls, and containing a portrait of our Lord known as the 'Acheiropoieton' or portrait not made with hands, traditionally begun by Saint Luke and finished by an angel. At one end of the dining hall called the Triclinium, in a building attached to the convent of the Passionist fathers, is the Scala Santa, or Holy Stair, reported to be that of Pilate's house, made holy by the feet of our Lord as he passed to judgment. The rest is more recent, the palace having been rebuilt from designs of Fontana by Sixtus V. The palace also contains notable museums of Christian and pagan antiquities.

LATERAN COUNCILS, five ecumenical councils of the Roman Catholic Church, held in the church of Saint John Lateran, Rome, under the presidency of the Pope. The first Lateran Council, attended by 300 bishops, took place in 1123, under Calixtus II. The Concordat of Worms (the agreement between the emperor and the Pope) was confirmed; the indulgences granted to the Crusaders by Urban II were renewed; the consecrations performed by Burdin, the anti-pope, were annulled; the decrees against simony, marriage of the clergy, etc., were repeated. The second (1139), under Innocent II, attended by 1.000 bishops, laid the interdict upon King Roger of Sicily, excommunicated the Petrobrusians, and ordered Arnold of Brescia to keep silent. The third (1179), under Alexander III, decreed that a vote of two-thirds of the total conclave should be required legitimately to elect a pope. The fourth, convened by Innocent III in 1215, is the most important of all the Lateran Councils. Besides representatives of many princes, two Oriental patriarchs were present, 412 bishops and 800 abbots and priors. Seventy decrees were issued. The first, directed against the Cathari and Waldensians, contains a confession of faith, in which the term *transsubstantiation* occurs for the first time. The second decides the Trinitarian controversy between Petrus Lombardus and Joachim of Floris (in favor of the former). The 13th forbids the foundation of new monastical orders. The 21st decrees that all the faithful shall confess at least once a year to his sacerdos proprius (Mansi xxii 953–1086). The fifth (1512–17), which was convened by Julius II and continued in 1517 under Leo X, and was not recognized by the Gallican Church, abrogated, on the command of Julius II, the Pragmatic Sanction issued by the Council of Pisa, and approved the concordat between Francis I of France and the Pope by which the "liberties" of the Gallican Church were abrogated. Consult Valentini, 'Basilica Lateranense descritta ed illustrata' (1839); Buddeus, 'De Conciliis Lateranensibus,' Jena (1725); von Kefele, 'Conciliengeschichte' (9 vols., Freiburg 1855–90).

LATERITE, a highly ferruginous, argillaceous rock or soil, found in India. The laterite of the highlands results from the weathering of the underlying volcanic rocks in situ. "Low-level laterite" is the surface-rock of the extensive low lands near the western coast; is formed from the débris of volcanic rocks of the region and of highland rocks. True laterite is a mixture of ferric hydroxide and aluminum hydroxide, with a small amount of free silica. It differs from true clay, in that the aluminum is present as a hydroxide, instead of as the silicate, kaolinite. Laterite is sometimes rich enough in iron to constitute an ore of that metal.

LATEX. The name, Latex, was first applied to certain plant juices which have a white, milky appearance. The white juice of the common milkweeds (*Asclepias*) is a familiar and typical example. The application of the name was then extended to cover similar juices which lack the whitish appearance, like the colorless, slimy juice of the Spider Lily (*Tradescantia*).

The latex is contained in cells which are often remarkable for their length and complexity. In many families of plants, like the *Asclepiadaceæ* (Milkweeds) and *Euphorbiaceæ* (Spurges), the latex cells are differentiated early in the development of the embryo and continue to grow as the embryo develops into the seedling and into the mature plant, and may finally reach a length of many yards. Consequently, they are the longest cells in the plant kingdom. They may branch profusely, but no transverse partitions are formed and, therefore,

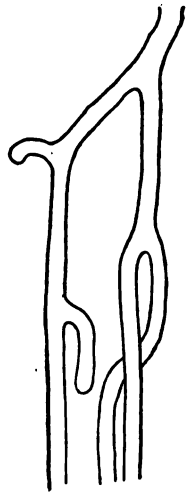

FIG. 1.

they are regarded as unicellular vessels. A portion of a single latex cell is shown in Fig. 1.

The walls of latex cells are generally smooth and thin and more or less elastic. During growth, they weave in and out among

the other cells but do not penetrate them. A small portion of a latex cell surrounded by other cells is shown in Fig. 2.

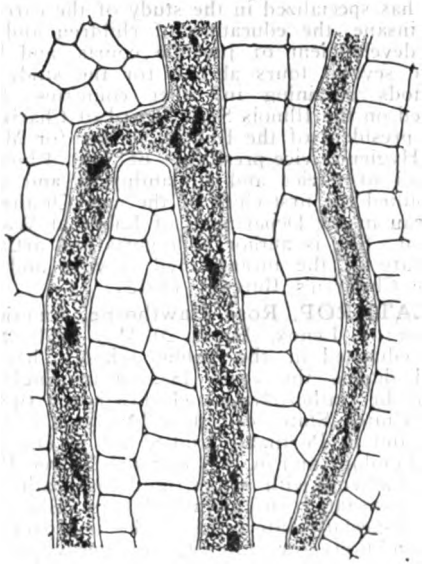

FIG. 2.

Not all of the latex carrying structures are formed in the way just described, for the partitions in rows of cells may become dissolved, so that long vessels are formed, the process being like that involved in the formation of the woody vessels which carry ordinary sap. Whether formed from a single cell or from rows of cells by the breaking down of partitions, long continuous tubes are developed. If there were any transverse partitions, they would interfere with the free flowing of the latex.

The contents of the latex tube or vessels are as varied as the plants which contain them. There is a rather thin layer of protoplasm lining the wall and containing many nuclei and various inclusions, while the hollow part of the vessel contains most of the latex. The consistency of the latex varies, but it is usually a milky sap which flows easily. It contains mixtures of gums and resins, rubber, fat and wax in emulsion. Sometimes there are tannins, salts, ferments and poisonous alkaloids. In the *Euphorbiaceæ* there are also starch grains. Rubber is such an important form of latex that it is treated under its own heading. The great Euphorbia trees of South Africa, when cut into with an ax, exude great quantities of a sticky, milky latex which might be of commercial importance.

When a plant containing latex is injured, the latex flows out and quickly coagulates as it is exposed to the air. The latex of *Euphorbia splendens,* a plant very common in the cactus rooms of greenhouses, will pull out into threads as fine as cobwebs, within a minute from the time the cut is made; but in such a small plant the elastic material is not in sufficient quantity to be of any commercial value. In some plants, especially in the flower clusters, the latex tubes are very close to the surface and the tissue covering them is very thin and delicate, so that creeping insects break through and are held by the rapidly coagulating latex and thus prevented from reaching the nectar, which is reserved for flying insects which can effect cross-pollination. Consult Molisch, H., 'Studien über den Milchsaft und Schleimsaft der Pflanzen' (1901). Various textbooks on botany have paragraphs on latex.

CHARLES J. CHAMBERLAIN.

LATHAM, lā'thăm, **John,** English ornithologist: b. Eltham, 27 June 1740; d. Winchester, 23 Aug. 1837. He studied anatomy under Hunter, engaged in the practice of medicine at Dartford, and in 1796, upon inheriting a fortune, retired in order to devote his time to nature study. He was elected to the Royal Society in 1775, and was active in the establishment of Linnean Society in 1788. He was closely associated with the leading scientific men of his day, and made a notable collection of birds. His last work, the 'General History of Birds,' was written in his ninth decade, and the illustrations were designed, etched and colored by the author. It is his most important work and is referred to by ornithologists as an authority for the assigned names of species. Although Latham has acknowledged faults as a compiler the work is a remarkable achievement. Author of 'A General Synopsis of Birds' (3 vols., 1781–85); 'Index Ornithologicus sive Systema Ornithologiæ' (2 vols., 1790; ed. Johanneau, Paris, 1809); 'General History of Birds' (11 vols., 1821–28), etc.

LATHAM, Robert Gordon, English ethnologist and philologist: b. Billingborough, Lincolnshire, 24 March 1812; d. Putney, Surrey, 9 March 1888. He was educated at Eton and Cambridge and became professor of English literature in University College, London. He published numerous works on the English tongue, among them 'The English Language' (1841; frequently republished); 'History and Etymology of the English Language' (1849); 'Handbook of the English Language' (1851); 'Elements of Comparative Philology' (1862), and a revised edition of Johnson's Dictionary (1870). His principal works on ethnology are 'Natural History of the Varieties of Man' (1850); 'Man and his Migrations' (1851); 'Ethnology of the British Islands' (1852); 'Ethnology of Europe' (1852); 'Descriptive Ethnology' (1859); 'Russian and Turk' (1878).

LATHROP, lā'thrŏp, **Francis,** American decorative artist and portrait painter: b. at sea near the Hawaiian Islands, 22 June 1849: d. Woodcliff, N. J., 18 Oct. 1909. He studied under T. C. Farrar in New York, at the Royal Academy, Dresden, in 1868, and in 1870–73 under Madox Brown in London, and assisted William Morris, Spencer Stanhope and Edward Burne-Jones in the execution of various works. He returned to New York in 1873 and engaged in decorative painting, portraiture and stained glass work. His chief decorative works are in the Metropolitan Opera House, New York; Trinity church and the Bijou Theatre, Boston; and in the chapel at Bowdoin College, Brunswick, Me. His work also appears in many private residences in New York, Albany and Baltimore. Of his stained glasses notable examples are those of the Marquand Memorial in Princeton College chapel, and in Bethseda church, Saratoga.

He was one of the founders of the Society of American Artists and an associate of the National Academy of Design.

LATHROP, George Parsons, American author: b. Oahu, Sandwich Islands, 25 Aug. 1851; d. New York, 19 April 1898. He was educated in New York and in Dresden, studying in the latter city from 1867 to 1870, when he returned to New York and for a short time studied law. He went to England and there, in 1871, married Rose, second daughter of Nathaniel Hawthorne. (See LATHROP, ROSE HAWTHORNE). From 1875 to 1877 he was assistant editor of the *Atlantic Monthly*; editor of the Boston *Courier* till 1879; resided afterward at Concord, Mass., and in New York. Among his writings in prose and verse the following are best known: 'Rose and Roof-Tree,' poems (1875); 'Study of Hawthorne' (1876); 'Afterglow,' a novel (1876); 'A Masque of Poets' (1877); 'An Echo of Passion' (1882); 'In the Distance' (1882); 'Spanish Vistas' (1883); 'History of the Union League in Philadelphia' (1883); 'Newport' (1884); 'Gettysburg, a Battle Ode' (1888); 'Dreams and Days,' verses (1892); 'Gold of Pleasure' (1892). With his wife he published 'Annals of Georgetown Convent' and 'A Story of Courage' (1894), and he brought out an edition of Hawthorne's works, with a biography (1883). The American Copyright League was founded (1883) by Lathrop.

LATHROP, John (also LATHROPP, LAYTHROP), American clergyman: b. Yorkshire, England; d. 1653. He was educated at Oxford; took holy orders; was rector at Egerton in Kent; and about the year 1624, in London, became minister (succeeding Henry Jacob) of the first Independent and Congregational church organized in England. He and his congregation underwent annoyance and persecution at the hands of churchmen, and for a time (1632–34) Lathrop was imprisoned. During his confinement he was bereft by the death of his wife and by a division in his flock over a question of baptism, and in 1634 sailed to Massachusetts, where he settled as minister at Scituate, removing in 1639 to Barnstable. The records of these towns kept in "an original register" written by him are referred to as authority by Prince in his 'Annals of New England.'

LATHROP, John Hiram, American educator: b. Sherburne, N. Y., 22 Jan. 1799; d. Columbia, Mo., 2 Aug. 1866. He was graduated at Yale in 1819; from 1822 to 1826 was tutor there; adopted the profession of law, which he followed for six years, then abandoned it for that of teaching. He taught at Norwich, Vt., and at Gardiner, Me. Between 1829 and 1840 held professorships of mathematics, natural philosophy, law, history and economics at Hamilton College; was president of the University of Missouri 1840–49; afterward became chancellor of the University of Wisconsin (1849–59); president of Indiana University (1859–60); professor of English literature at the University of Missouri (1860–62). He was again president of the University of Missouri in 1865, and until the time of his death.

LATHROP, Julia Clifford, American social worker: b. Rockford, Ill., 1858. She was graduated from Vassar College in 1880 and since 1889 has spent much of her time as a voluntary resident at Hull House, Chicago. She has specialized in the study of the care of the insane, the education of children and in the development of juvenile courts, and has made several tours abroad for the study of methods obtaining in other countries. She served on the Illinois State Board of Charities, was president of the Illinois Society for Mental Hygiene, vice-president of the Chicago School of Civics and Philanthropy, and was appointed the first chief of the new Children's Bureau in the Department of Labor at Washington. She is author of reports and articles on care of the insane, civil service, and of 'The Children's Bureau' (1912).

LATHROP, Rose Hawthorne, American author: b. Lenox, Mass., 20 May 1851. She was educated in the public schools, having lived during the years 1853–60 in England, where her father, Nathaniel Hawthorne (q.v.), was United States consul at Liverpool (1853–57), and in Portugal; studied art in Dresden and London; and in 1871 married George Parsons Lathrop, with whom, until his death, she was associated in literary labors. She has been especially interested in the improvement of conditions for suffering and needy people, and in 1891 established Saint Rose's Free Home for Cancer, and Rosary Hill Home, in New York, where she afterward became head of a Dominican community of the Third Order and directress of a charitable home, her title being Mother Mary Alphonsa. Besides many sketches and stories, her writings include 'Along the Shore,' poems (1888), and 'Memories of Hawthorne,' with her husband (1897), with whom she also collaborated in other works.

LATHROP, William Langson, American painter: b. Warren, Ill., 29 March 1859. He was self-taught in art and has devoted himself to landscape painting. He was awarded the gold medal of the Philadelphia Art Club, won the Webb and W. T. Evans prizes, and was also awarded prizes from the Carnegie Institute and Worcester, Mass. His work is represented in the permanent collections of the Metropolitan Museum of Art, New York; the Carnegie Institute, Pittsburgh; the Albright Gallery, Buffalo; the National Museum of Art, Washington; and the Minneapolis Art Museum. He was elected to the National Academy in 1907.

LATHYRUS, lăth'ē-rŭs, a genus of plants of the family Leguminosæ, the vetchlings or everlasting peas, which resemble *Vicia* but have usually fewer leaflets (often two), broader petals, an obliquely truncate staminal tube, and a style longitudinally flattened and bearded on the inner face. The species are numerous and grow in sandy and waste places, or in meadows. *L. pratensis,* the meadow vetchling, a climbing plant, two or three feet long, with yellow flowers, is a familiar example in many parts of the northern hemisphere. Another species (*L. maritimus*) the beach-pea, is equally widespread. The roots of *L. tuberosus* are eatable. *L. sativus* and other species are used as green fodder for cattle in India, but are harmful to pigs; and several species contain a poisonous principal injurious to the human systetm. *L. latifolius* and *L. sylvestris,* of southern Europe

and England, respectively, are both perennials and known as the everlasting pea. *L. odoratus*, a native of the East, is a common flower garden plant, with fragrant flowers. *L. sylvestris wagneri* is grown as a fodder plant in Germany, France and the United States. It yields abundant green forage and when well started is very resistant to drought. Nearly 60 species of the genus are cultivated for their handsome flowers —yellow, red, scarlet, purple and blue. The larger kinds are well adapted for arbors and shrubberies, where they may climb upon some support.

LATIMER, Hugh, English prelate, reformer and martyr; b. Thurcaston, Leicestershire, about 1490; d. Oxford, 16 Oct. 1555. He was educated at Cambridge, took holy orders, and by and by began to preach Protestant doctrine, which led to vigorous opposition. As one of the representatives of the University of Cambridge, he supported Henry VIII's doubts on the validity of his marriage with Catharine of Aragon; was made chaplain to the king in 1530, and bishop of Worcester in 1535. In 1539 he resigned his bishopric, not being able to accept the Six Articles, and was put in prison, but on the accession of Edward VI he was released and became highly popular at court. This continued until Mary ascended the throne, when Latimer was cited to appear, with Cranmer and Ridley, before a council at Oxford, and condemned. After much delay and a second trial Latimer and Ridley were burned at the stake. His dying words are famous: "Be of good cheer, Master Ridley, and play the man; we shall this day light such a candle by God's grace in England as (I trust) shall never be put out." His preaching was popular in his own time for its pith, simplicity and quaintness, and his 'Sermons' are still read. Consult Lives by Demaus (1869); R. M. Carlyle (1899).

LATIMER, James Elijah, American clergyman and educator: b. Hartford, Conn., 7 Oct. 1826; d. Auburndale, Mass., 26 Nov. 1884. He was graduated at Wesleyan University in 1848 and engaged in teaching until 1861 when he became pastor of the Methodist Episcopal church at Elmira, having entered the ministry in 1858. He traveled in Europe in 1868 and in 1870 he was selected as professor of historic theology in the Boston University School of Theology. In 1874 he was appointed dean and professor of systematic theology there, which positions he retained the remainder of his life. He was a contributor to magazines and religious periodicals.

LATIN, The Mechanism of. Under this heading it is proposed to give a brief description of the morphology of Latin with a few preliminary remarks on the Latin alphabet.

1. **The Alphabet.**— Originally and even up until Cicero's time, the Latin language had only 21 characters to represent its sounds. Toward the end of the republic or the beginning of the empire the letters Y and Z were introduced from the Greek alphabet in Greek loanwords, so that at this time there were 23 characters in Latin (6 vowels and 17 consonants), as follows:

A B C D E F G H I K L M N O P Q R S T U (V) X Y Z

The 9th and 20th characters, however, had consonantal as well as vocalic values. Unlike the Greek, the Latin alphabet was not borrowed directly from the Phœnician, but through the medium of the Greek alphabet of the Doric-Chalcidian colony of lower Italy.

2. **The Parts of Speech.**— In Latin there are the following parts of speech: noun (which includes substantives and adjectives), pronoun, verb, adverb, preposition, interjection and conjunction. Numerals are considered as adjectives or adverbs accordingly as they are cardinals or ordinals. Participles partake of the nature and functions of both the adjective and the verb. Words which undergo a change in form to indicate a change in meaning are said to be inflected. The last four parts of speech mentioned above are uninflected. The inflection of nouns and pronouns is called declension; that of verbs, conjugation.

3. **Gender, Number and Case.**— In Latin one and the same nominal form indicates simultaneously gender, number and case without any of these categories having a distinctive mark.

A. *Gender.*— There are three genders in Latin: masculine, feminine and neuter. It is difficult, however, to foretell a priori what would be the gender of a given word. In general, masculine and feminine mark a difference of sex, and neuter denotes inanimate objects, but there is also a grammatical gender which must not be confused with the natural gender.

B. *Number.*— Latin distinguishes two numbers: singular and plural. The dual, which in Indo-European served to designate two objects, has completely disappeared, although there are traces of some dual forms, such as *duo* and *ambō*, which however are treated as plurals.

C. *Case.*— Latin possesses six cases: nominative, genitive, dative, accusative, vocative and ablative. The ablative was formerly a local case and with it is confused a case primitively distinct, the instrumental or case of accompaniment and of means. There are also some traces of a locative case, now lost. The use of prepositions with some of the cases supplies some deficiencies of the mere cases in expressing word relationship. The functions of the cases are as follows:

nominative	case of subject or of predicate attribute
genitive	case of complement of noun, whether subjective or objective
dative	case of person or thing interested
accusative	case of direct complement of verb; of extent of space and duration of time; of limit of motion
vocative	case of direct address
ablative:	
real ablative	case of point of departure or origin
instrumental ablative	case of means, instrument, manner and accompaniment
locative ablative (in part)	case of place in which
locative	case of time at which or place in which

It is characteristic of Latin that from the very beginning there is a tendency to reduce the number of cases. In the singular the instrumental has disappeared, the locative has only a precarious existence and the vocative and nominative tend to be confused. In the plural Latin never had but one form for the dative, ablative, instrumental and locative, not to mention the single form for the nominative and vocative, whose identity goes back to the Indo-European.

4. The Noun.— Variation of accent plays no part in the declension of Latin nouns, for since prehistoric times Latin had an accent at a fixed place, and the displacements of the Indo-European movable accent, of which some traces are found in Greek, have entirely disappeared in Latin. Moreover, the Indo-European variation of the quality or quantity of stem-vowels, a phenomenon called ablaut or vowel gradation, which is not preserved intact in any one language, leaves but few traces in Latin. The Indo-European noun was composed of a stem, to which was added an ending which, concurrently with the vocalic variations of the stem, marked at once the number, gender and case. Since the vocalic variation of stem was almost entirely eliminated in Latin, Latin declension is to be recognized by the endings. The Latin grammarians laid down five types of declension according to the relation between the nominative and genitive:

	1	2	3			4	5
nom.	rosa	dominus	dux	mens	classis	manus	diēs
gen.	rosae	domini	ducis	mentis	classis	manūs	diēi

This distinction is very artificial, although it is always taught. The following paradigm shows the case-endings of the five declensions:

The declension of neuter nouns differs a little from the paradigm below in the nominative, vocative and accusative cases, which in the plural always end in *-a*.

5. Pronouns.— Pronouns in Latin fall into five chief classes: personal (including possessives), demonstrative, relative, interrogative and indefinite. Although in many respects pronouns do not differ to a great extent from nouns in declension, they have essential characteristics which show clearly that they have their own declension. This is particularly true of personal pronouns whose declension is therefore given here:

	Singular.			Plural.		
	1	2	3	1	2	3
nominative	ego	tū	(demonstrative)	nōs	vōs	(demonstrative)
genitive	mei	tui	sui	nostrum, nostri	vestrum, vestri	sui
dative	mihĭ	tibĭ	sibĭ	nōbis	vōbis	sibĭ
accusative	mē	tē	sē, sēsē	nōs	vōs	sē, sēsē
ablative	mē	tē	sē, sēsē	nōbis	vōbis	sē, sēsē

6. The Verb.— The conjugation of the Latin verb depends entirely upon the contradistinction of two stems, that of the present and that of the perfect. Related to the latter is the stem of the verbal adjective in *-to-*, which serves notably to form the perfect of the passive and of deponents. The contradistinction did not, at least originally, imply an entirely temporal idea, but merely an action viewed as uncompleted or completed respectively. Moreover, the two stems were at first independent of one another, but, as the language developed, they were gradually linked together (*conjungere*) as parts of the same system and parallel temporal forms based upon each of the two stems appeared.

In the conjugation of the verb there are two voices: active and passive. The active indicates a fact, an action, a state pure and simple. The passive has a double meaning: 1, impersonal, with the meaning of the indefinite second or third person; and 2, a middle-passive, expressing, as in Greek, that the subject is interested in the action expressed by the verb, often with a reflexive sense. A certain number of verbs of middle or active meaning have only passive endings; these are called deponents.

As regard forms, the conjugation of the verb

Singular.

	1	2	3			4	5
nominative	rosa	dominus	dux	mens	classis	manus	diēs
genitive	rosae	dominī	ducis	mentis	classis	manūs	diēi
dative	rosae	dominō	ducī	mentī	classī	manuī	diēi
accusative	rosam	dominum	ducem	mentem	classem	manum	diem
vocative	rosa	domine	dux	mens	classis	manus	diēs
ablative	rosā	dominō	ducе	mente	classe	manū	diē

Plural.

	1	2	3			4	5
nominative & vocative	rosae	dominī	ducēs	mentēs	classēs	manūs	diēs
genitive	rosārum	dominōrum	ducum	mentium	classium	manuum	diērum
dative & ablative	rosis	dominis	ducibus	mentibus	classibus	manibus	diēbus
accusative	rosās	dominōs	ducēs	mentēs	classēs	manūs	diēs

distinguishes personal and non-personal forms. The former, which are the more important, comprise the tenses and moods provided with personal endings; the latter, declinable or indeclinable forms which by their origin and their morphology are attached to the substantive.

Personal forms comprise three moods: indicative, or mood of reality or affirmation; imperative, which serves to give orders; and subjunctive, or mood of subordination, which marks will and anticipation and in Latin also wish, possibility and condition. Each of the stems has three tenses in the indicative: present, imperfect or past, and future; the imperative has no past and the subjunctive no future or future perfect. Each of these tenses has two numbers: singular and plural; there is no dual. Each of these numbers has three persons: first, second and third (except the imperative which has not the first).

Non-personal forms comprise: *a*, verbal substantives: infinitive (present and perfect in the two voices), gerund and supine, which form a sort of declension of the active infinitive; and *b*, verbal adjectives: participles (present and future active, perfect and future passive).

Latin has not merely one conjugation, but it is difficult to find a satisfying classification. The distinction into four conjugations, imagined by the Latin grammarians and still in use in the teaching of Latin, takes into account only the present and even here unites two different formations. In the perfect it is even altogether improper. But the division into thematic and non-thematic or athematic verbs is equally unsatisfactory. The four conjugations now generally adopted in teaching are those whose stem ends in *-ā* (first conjugation), *-ē* (second conjugation) and *-ī* (fourth conjugation), together with the third conjugation which includes, among others, all those verbs whose stem ends in a consonant and requires a thematic vowel to join it to the personal or tense endings. There are quite a few verbs which do not fit into these artificial categories, such as *sum* ("I am"), *volo* ("I wish"), *fero* ("I bear"), etc.

The personal endings of all the tenses (indicative and subjunctive) in the active voice except the perfect indicative are:

Person.	Singular.	Plural.
1	*-ō* or *-m*	*-mus*
2	*-s*	*-tis*
3	*-t*	*-nt*

The personal endings of all the tenses (indicative and subjunctive) of the present stem in the passive and in deponents are:

Person.	Singular.	Plural.
1	*-r*	*-mur*
2	*-ris* or *-re*	*-minī*
3	*-tur*	*-ntur*

The personal endings of the perfect indicative tense in the active are:

Person.	Singular.	Plural.
1	*-ī*	*-imus*
2	*-istī*	*-istis*
3	*-it*	*-ĕrunt, -ēre*

The personal endings of the tenses (indicative and subjunctive) of the perfect stem in the passive and in deponents are formed by the participle and the auxiliary verb.

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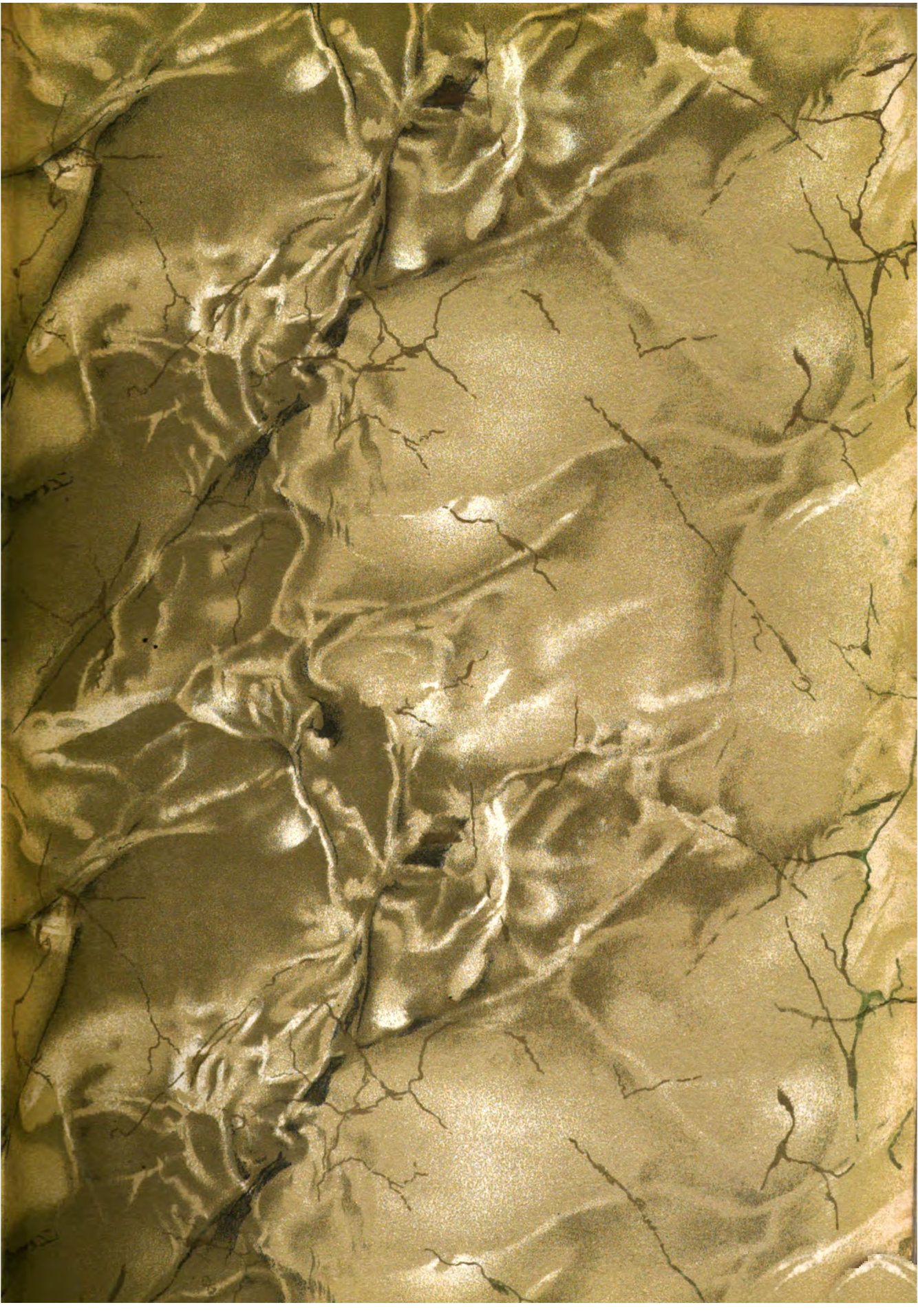
HERBERT F. WRIGHT,
Sometime of the Department of Latin, The Catholic University of America.



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